

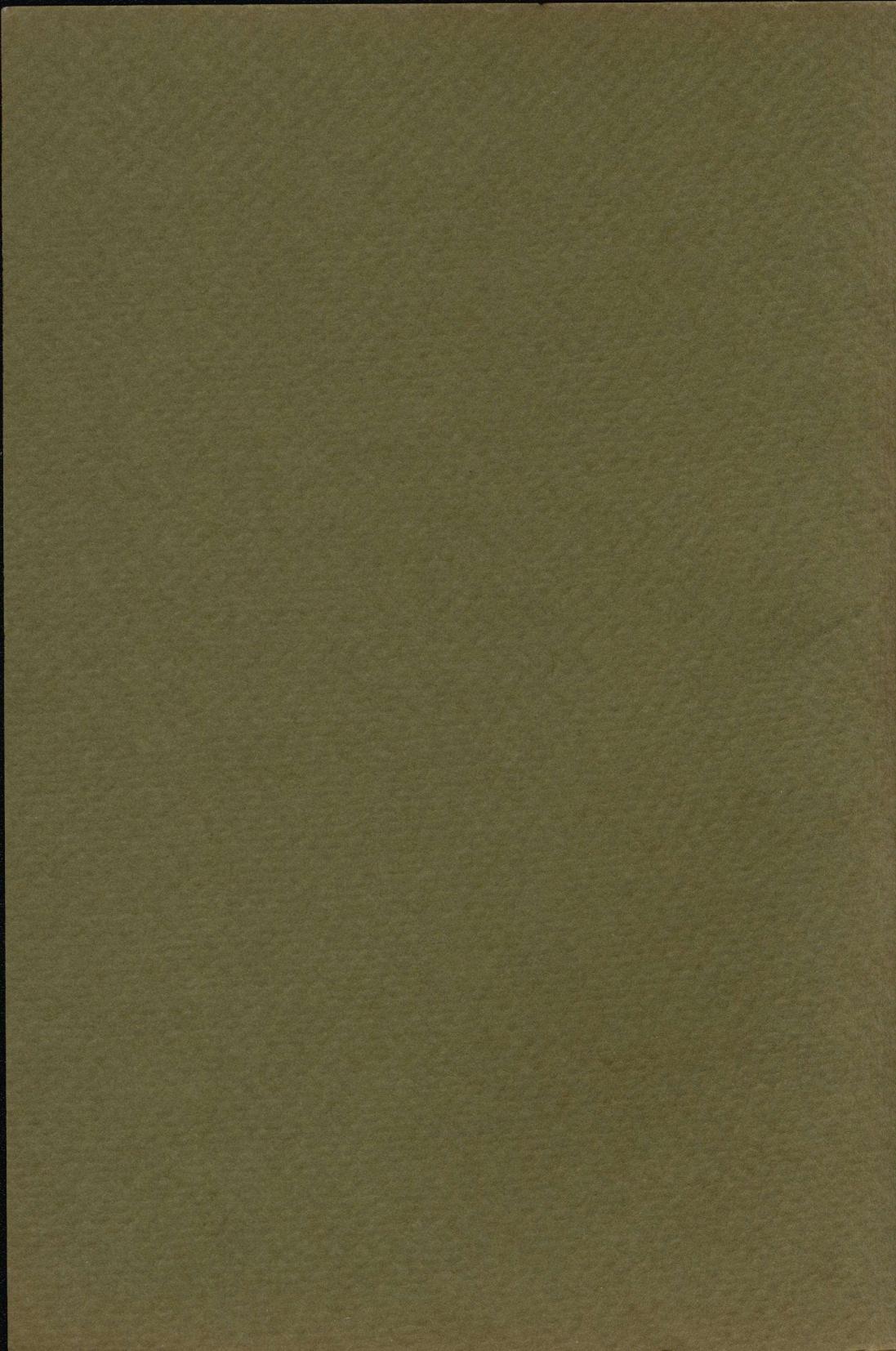


# ZENITH TOOLS AND CUTLERY



UNCONDITIONALLY  
GUARANTEED

MARSHALL-WELLS HDWE. CO.  
DULUTH, MINN.



# ZENITH TOOLS and CUTLERY



ALL PRICES  
SUBJECT TO CHANGE WITHOUT  
NOTICE

MARSHALL-WELLS HARDWARE  
COMPANY



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# ANNOUNCEMENT

This catalog is issued in the interest of good Tools and Cutlery; in the belief that a uniformly better line of such, offered under our Zenith Trade Mark, would be appreciated, not only by mechanics and manual training instructors, but also by the general consuming public.

No matter by whom used, a properly designed tool will help a man do better work, and a good tool will outlast many poor ones.

Granted that the average tool box in farm or household is infrequently used, the satisfaction given, the time saved, with efficient tools, soon counterbalances the study or care used in selecting them.

## FOR OUR BENEFIT AND YOURS

Without waiting for the legislature to define standards in hardware, as have been set for food, drugs, paint, canvas, etc., Marshall-Wells have been operating a laboratory for now going on seven years, with the sole aim, not of defining composition or formula, but so that when the label Zenith should be seen on an article of hardware or kindred lines, that label should testify that the word Zenith, meaning "Top of the Universe" should mark the highest point then known in the world of hardware.

## NOT A HOBBY

The Krupp Gun Works have made very practical use of their one hundred thousand dollar testing laboratory; the Pennsylvania Railroad Company has several hundred men in their Altoona shops, whose entire time is given to analyzing, testing, examining and specifying for the materials they purchase and use,—everything from rails to car plush; the Cadillac, Ford and Packard Auto Factories have large laboratories and Marshall-Wells have long had the finest of its kind for hardware research.

## IT'S TO OUR ADVANTAGE TO MAKE GOOD

With us, having so many lines of merchandise under the Zenith brand, the popularity of each depends much on the other; and, from merchandising honesty, if nothing more, being obliged to make good any assurance we may give, we think that our guarantee should be full weight and credence with every user of such hardware.

Especially do we ask the mechanic to believe in this guarantee, because our tools are built mainly for the intelligent, discriminating man, one who will advertise our goods if they are right; who will promptly complain if they are not right; and who, once he has confidence in them, will give our dealers confidence and will insure the stability of our business.

## PROMISES LIGHTLY MADE SHOULD BE LIGHTLY ACCEPTED

If as has been stated only 5 per cent of tools are usually sold to discriminating expert mechanics, the returns from this small percentage would be so slight, the manufacturer who is willing to take that kind of a chance, is usually safe therein.

For this reason, a lot of mediocre tools are safely guaranteed.

Guarantees, like promises, are apt to be too lightly made and too readily accepted.

The real worth of a guarantee depends upon the responsibility of the maker, the experience he has had in that manufacture, and the probability that he will continue in the business long enough to make good the guarantee. should such need ever arise.

## COMEBACK CLUB'S MEMBERSHIP NOT LIMITED

It has been notorious that guarantees on many well known items, from watch cases to hosiery, depend upon a common knowledge of human nature,—that if a thing gives any reasonable value, the owner will not require the maker to live up to the letter of his warrant.

## THE OUNCE OF PREVENTION

By having the finest equipment adapted to our needs, for testing steel material in this research work, by having an engineer in charge with years of practical experience in Sweden, Germany and the United States, by thus being in position to exactly compare the work of the best factory practice, of the different plants in this country and abroad, by using an apparatus that enables us to definitely determine the best treatment and the best steel for every use, we are attempting to insure the purchasers of Zenith Tools and Cutlery against any possible factory carelessness, by the most rigid hardware merchandise inspection yet instituted.

We intend that every Zenith article leaving our merchandise stock shall be tested, so far as our Testing Department can go without defacing the tool.

We intend that every one shall give entire satisfaction to the most critical mechanic, shall be made so that it shall wear out in such a way that the owner will have nothing but another of the same kind.

Just as some city streets seem to be laid out following the trail that the original rabbit trod through the woods, or the path the cow made through the pasture; so, many manufacturers today are still blindly pursuing the same old processes initiated by their ancestors.

## THE STEEL THAT GRANDFATHER USED

The early American Tool makers bought English steel, made from Swedish steel billets.

The Swedish iron ore is high grade; freer from phosphorus and sulphur than any other.

They smelt with charcoal made from wood, while we must use coke made from coal, containing sulphur and phosphorus.

Their pig iron is thus better to begin with; and, in working it through Puddling furnaces, squeezing out the slag, rolling the muck bars and again forcing out the slag, this most pains-taking process begets better iron.

## BLISTER STEEL

English steel makers use this Swedish iron in all their better steels. Muck bars which are pig iron refined and rolled into bars, are usually the basis for crucible steel, which is, outside of electric steel, the purest that we have.

Crucible steel is made in crucibles containing as a rule 50 pounds or 100 pounds. The bars or billets are melted in these crucibles.

Certain materials called fluxes are added, which unite with the impurities and float to the top where they can be skimmed off, leaving nothing but pure metal, to which can be added the required amount of carbon or alloys to make the steel of the desired formula.

#### QUICKER AND BETTER

When the Bessemer and Open Hearth processes of making steel made it possible to turn out two hundred tons, instead of the previous hundreds of pounds, English steel rose in price. In this country as the importing duties increased, the American steel makers entered the business more vigorously, and our tool factories naturally bought the cheaper, home product.

The demand on the American steel mills has been for greater tonnage at lesser cost; so quality has ever been sacrificed for quantity and price.

In the last few years, the need of better quality in steel for making tools has become more apparent.

Great progress is being evidenced in electric furnace methods, where the melting and refining is done by electric heat, sealed against all influence of impurities in fuel, gases and the oxidizing by atmosphere or flames.

#### COST PROHIBITIVE

These pure steels are as yet too expensive for general commercial use, so that the material the average manufacturer deals with, necessarily includes greater or lesser proportions of impurities, such as phosphorus, sulphur, slag, enclosed gases, etc.

A high carbon in the steel makes the tool harder and more difficult to forge.

#### HAS TROUBLES OF HIS OWN

In the average manufacturing plant, requiring a high production for a low cost and greater volume, the greatest problem before the foreman of the shop is not necessarily how good, but how little trouble in the making and how few the returns.

He can easily tell when sulphur impurities are in excess, for they cause hot shortness and he cannot forge or weld the metal. The sulphur at red heat will cause the steel to crumble or "fly."

The impurities that he therefore strikes in the making, he eliminates, but phosphorus and inequalities of tempering or heat treating, caused in the making, are unknown quantities, not developing until in use. Phosphorus causes cold shortness, brittle at room temperatures, more pronounced at freezing point and below, and most necessary to guard against in such articles as axes, saws and other tools used out of doors, in which this defect becomes more magnified as the material is chilled.

#### NOT FROM WHAT—BUT HOW?

The up-to-date manufacturer sometimes has chemical analysis made to determine what are the proportions of the various ingredients present; but, from this alone, he cannot know any more about the resultant tool made from those ingredients than you would know about so much bread, baked by several different cooks, all of whom might have used exactly the same proportions of flour, water, salt, potatoes, milk, lard, sugar, yeast, etc.,—because the mixing, kneading and baking would make more difference than the original ingredients.

You Didn't Know Till You Ate It, So We Installed a Testing Department.

Our early laboratory work was divided into three classes.

First—Chemical analysis by which we determined the composition of the steel, viz., its relative proportions of carbon, manganese, phosphorus, sulphur, silicon, iron and in the alloy steels vanadium, tungsten and chromium, etc.

**Vanadium** in steel, for instance, increases the tensile strength and the elastic (bending) limit; increases the life of the steel under repeated strain, and has been widely adopted for automobile springs, axles, gears, etc., subjected to constant vibration.

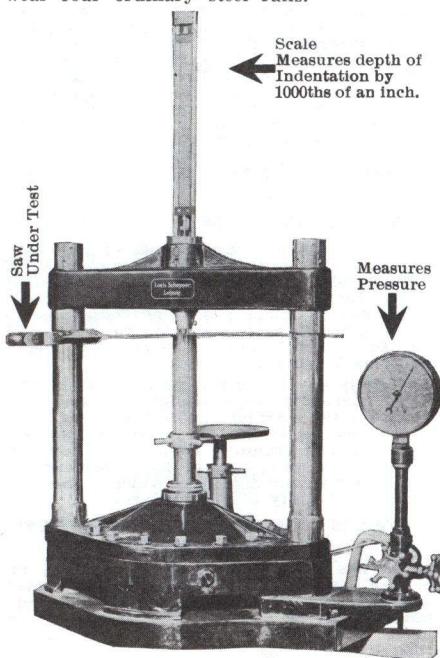
It is said that where a certain grade of carbon steel will stand fifty thousand bendings or vibrations of a certain length, that vanadium in that steel will permit a million such vibrations before it tires, or, as some wrongly term it, crystallizes.

Many products have claimed benefit of vanadium alloy which never had anything nearer than the name on the box.

**Tungsten** in steel imparts the valuable quality of retaining its normal physical qualities at high heat; as an alloy is used for high speed cutting tools, which will bore into steel even when operated so fast that the cutter becomes red hot.

**Chromium** toughens and stiffens the steel and is widely used in the construction of safes and rock crushing machinery, armor piercing projectiles and Zenith lathing hatchets and high speed saws.

**Nickel** as an alloy of steel toughens armor plate so it will not crack, even when pierced and increases resistance to wear. For instance a nickel steel rail on a sharp curve will outwear four ordinary steel rails.



Brinell Ball Hardness Tester.

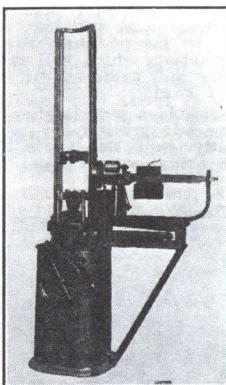
**THE HUMAN ELEMENT**

Most of the tool makers in the United States today, in their testing departments, use a file and a small pointed hammer and depend upon the experience of the operator to know whether the steel is hard enough or soft enough. You can readily imagine the variations in the test of one man from another and whether his blow and his judgment were always the same.

**THE BRINELL BALL TEST**

Instead of this guess work with a file, we have substituted the Brinell Ball Test, which measures by the thousandth part of an inch, just how much pressure is required to force a 2/5 inch diameter steel ball into the metal under test.

For comparative purposes, we use on all, 6614 pounds pressure and then need but measure the depth of indentation, to compare resistance under wear exerted by hardness and strength.

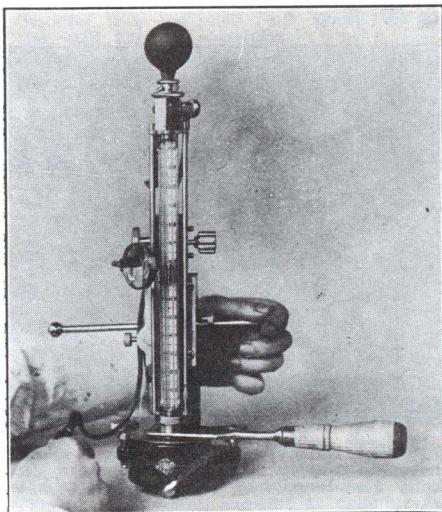


Olsen Universal Testing Machine.

Next comes the **Universal Testing Machine**, with which we can test pulling apart, compression or squeezing, bending and shearing.

**NO NAKED EYE GUESSES**

To know how the bread has been kneaded and baked, you would cut it open and look at the grain. So, in the third section of this testing laboratory, comes the **Microscopical Camera**.

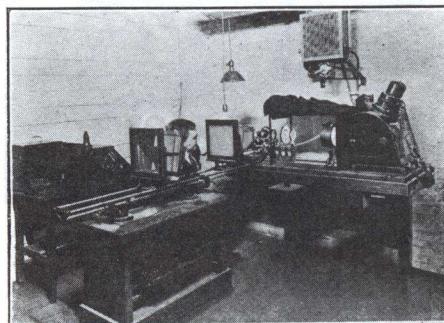


Sceleroscope Hardness Tester.

To take the place of the inspector with his little pointed hammer and the blacksmith who determines by the rebound of his hammer from the steel on his anvil, how hard or how soft was the surface, we use a Shore sceleroscope.

The sceleroscope looks like a gauge glass with a thermometer graduation behind it. A steel cylinder, weighing 40 grains, with a diamond point, is dropped ten inches down upon the surface of the tool, and the hammer's rebound back up the glass indicates, on the graduated scale, the relative hardness of the specimen.

Once we have determined, by practical experience, what should be the standard hardness of various kinds of tools, the sceleroscope test gives an accurate comparison of the hardness of material, so that we can definitely say, if the tool shows hardness or softness beyond the range of a few points it would not be satisfactory for our trade.



Microscopical Camera.

Using different lenses which will magnify from  $1\frac{1}{2}$  to 2,000 times, we can examine the exact distribution of all the particles, impurities, etc., the relative proportion of the ingredients; and by the size of the crystals and the appearance of their grained lines, we can tell at a glance the influence of forging which had refined the crystals, and the heat treatment which had hardened, tempered or annealed the material.

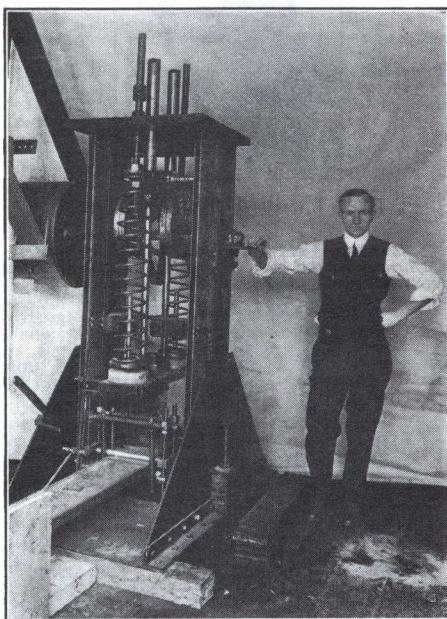
**PROOF OF THE PUDDING**

You might suggest that we send a tool to different points in our territory and ask for reports from experienced users.

Those field reports would be misleading, because we might not know who made the test, how the tests were conducted, or with what intent they were directed. Unless such reports are made under exactly the same conditions, they would not be truly comparative,

and such a process would take months and years, depending upon the tool, so we have been obliged to invent quicker processes of use and destruction, which will exactly match actual working and using conditions found in the workaday world.

So all the previous investigation resolves itself down as but preliminary work, critical and comparative tests, but how will the article prove out in actual practical use?



Endurance, Impact Machine Now Working on Broad Axes.

#### IMITATES REAL WORK

This illustration shows a machine designed and built for Marshall-Wells' laboratory, to determine chopping wear, similar to an axe in wood, except that there is no prying strain or twist as on the handle.

It determines the crushing resistance of the edge, it can vary the force of the stroke 1700 pounds, and it can actually determine the life of the axe—how long it will stand up. It employs ten times the strain and force of a man's use in each blow and we can set it for different strains and at different angles.

To know what is the sidewise strain of a broad axe, the axe is first proved with a straight edge, to see that the back is absolutely flat across the edge and from bit to head, also diagonally. Then it is clamped in a vise and the edge hammered with powerful blows with a mallet, to see whether or not the vibrations will cause it to bend, wave, or produce a fracture of the edge.

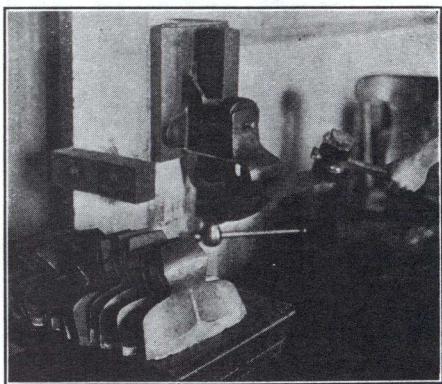
The Broad Axe is an interesting tool—for many generations the secret of good forging has been carefully preserved in certain families, handed down only from father to son.

When you consider its twelve inch length of bit, the high temper edge it must hold, the requisite toughness to exert the splitting, prying strains and yet always preserve the perfect flatness of its back, you have a better conception of the problems of forging, hardening, tempering and grinding.

When polished, the finer-than-hair-line tempering cracks do not show, but a few days later, the moisture from quenching bath eats its way out of the crack and a faint line of rust appears. So unless the nicest care is used and the most exact inspection practiced, as many as 17% have been rejected, even after passing the ordinary factory examination.

You will naturally think that 100 out of 600 means great waste, too high cost of manufacture, and so it is. That is why a good Broad Axe is a valuable tool.

But it is better for us to cull out 17 per cent here than to later have 100 claims for defectives, 100 returned axes, 100 handles ruined and 100 dissatisfied users, regardless of our guarantee of replacement.



Testing Broad Axes with Heavy Mallet Blows—to develop flaws and to prove a Perfectly Flat Back—true to Straight Edge both ways.

To explain what heat-treating means is rather difficult, but we might liken it to baking out excess brittleness and leaving toughness and elasticity.

What is actually done, is to refine the grain, make the crystals smaller, make them stick more closely together, make them of a more uniform size and draw out all brittleness.

It is by heat treatment that brittle castings are made into malleable clevises, cast iron fittings are made into malleable fittings, cast iron is made into malleable ranges, and that steel and alloys are made into drill proof safe walls or armor plate.

#### SHAPE CUTS A LARGE FIGURE

In tempering, the shape of the tool determines how it is treated.

Oil retards cooling, water is quicker and brine is much faster, depending on the solution.

**HE LET THE CAT OUT OF THE BAG**

When Krupp, the German gun maker, sued the Bethlehem Steel Company for infringement of armor plate patent, he had to describe the processes by which he changed steel from 1c a pound to 20c a pound value, and in that testimony were revealed secrets of heat treatment which led tool makers to perfect their processes along similar lines. It enabled us to perfect our Zenith Hatchets, each of which is made from one piece of high grade, high carbon steel, heat treated, so that parts needing to be tough should be tough and those needing to be hard and hold their edge, could be made so, and that the head of the hatchet, which should stand hard blows, shocks and defacing from nail heads, etc., should be made accordingly.

**MORE ABOUT THE HATCHET**

What we say for the Zenith nail hammer handle on page 7 applies to the Zenith hatchet handle, as to quality of hickory, grain cut, special shape, etc. No hickory billets can be used until they have been seasoned for two years, under sheds, and after being made into handles they are piled back again into bins, for still further seasoning.

The six illustrations on the following page are of Hatchets which have been cross sectioned, to show construction of Tool and quality of Steel.

The first four are welded together from different kinds of Steel; the last two are of one solid piece of Steel. It is the general misunderstanding that some Hatchets stand at the top as to quality because they are by far the highest priced.

Ask these manufacturers why their Hatchets are made with a weld and the answer is that the experience of many, many years has taught them that the best Hatchet is made by the same method as was used by their grandfathers.

The true reasons for their manufacturing welded Hatchets are as follows: When they began manufacturing Hatchets, over half a century ago, their equipment was probably not much better than that now found in any good Blacksmith shop. At that time, the Steel industry was in a very crude state and Puddled Iron was the commercial product. No Bessemer or Open-hearth Steel processes existed. There was a small amount of Crucible Steel made, but this was very expensive and was made almost exclusively in England.

In the further development of the Steel industry, Puddled Iron was replaced by Bessemer and Open-hearth Steel.

It required much skill and caused much resulting loss in defectives to make a perfect weld between Crucible Steel of high carbon and Puddled Iron. But it is still more difficult to produce such a weld between high carbon Tool Steel and low carbon Open-hearth or Bessemer Steel.

The welds frequently break or split open and render the Hatchets useless, or the high carbon Crucible Steel edge is often spoiled by heating it too highly in the welding process, thus rendering it brittle.

One concern has not even progressed to the point of putting in a press to punch out the eye, but still folds the flat Steel over an eye mold and welds together the ends, as is seen in No. 1 where the weld is visible, starting at the beveled edge and going up to the corner of the eye. This folded weld does not injure the Hatchet in the slightest, if it has been

made a perfect weld by great skill and care, but it certainly does increase the cost, without bettering the Hatchet.

From our experience in the past years with "returned" Hatchets having a welded edge, we have noted that about 75 per cent of the defects were caused by imperfect welds at the beveled edge, and for this reason, later manufacturers use a weld similar to that in sample No. 3, called an "overcoat" bit.

This particular sample has a low grade of Steel in the body of the Tool, indicated by the dark streaks which run through the metal. The Tool Steel edge which is welded on by overlapping contains 25 per cent less carbon than the Edge Steel in either No. 1 or No. 2 until it becomes only a soft steel wedge.

This No. 3 construction is an improvement as far as breaking of the edge weld is concerned, but even here we will have the same trouble if the Hatchet is ground far down.

As with No. 1 and No. 2 there is also the difficulty of getting a perfect weld without injuring the quality and temper of the edge Steel.

In consequence with the development of the Steel Industry, a one-piece Hatchet appeared at first in the cheaper grades and was found to give very good satisfaction in cases where good Steel was used and the proper temper given.

The most progressive and modern factory then began making one-piece hatchets with First Quality Tool Steel of High Carbon.

We are satisfied that a one piece Hatchet manufactured from high Grade Steel (of uniform chemical composition, free from streaks and lamination, slag or other impurities) and correctly tempered, is the best Hatchet that can be made (and have adopted it) for our Zenith Brand, No. 6.

There may be a wide difference in one piece Steel Hatchets. You will note in No. 5 a low grade of Steel is used. The photo shows dark parallel streaks, which are the result of a variation in composition and lamination of the Steel, which is apt to be brittle. The tempering is not done uniformly and judiciously.

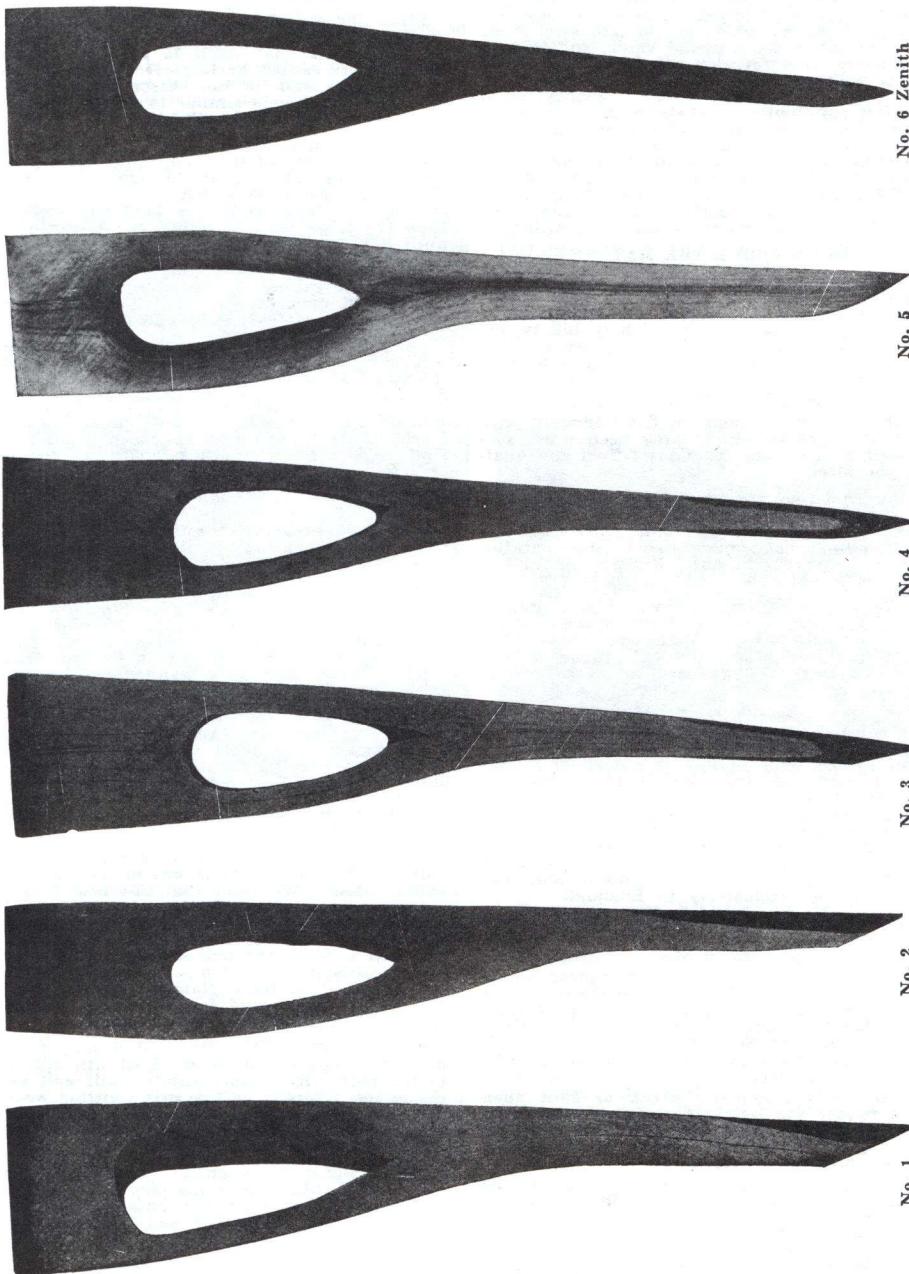
Sample No. 6 is our present Zenith and you will note that the Steel is absolutely uniform and flawless. We know that this brand cannot vary in quality; that every lot of Steel is thoroughly tested before going into the forge and that the facilities in the hardening room are such as to control and maintain a uniform heat treatment in the tempering process. We are certain that these Hatchets are the best that can be made and fewer failures will be found among them than in any others.

Besides the quality of the Steel and Temper, the shape of the Zenith Tool will appeal to the user. It is more slimly built and requires less effort in cutting and splitting wood than a thicker Hatchet blade. It requires less work to regrind the edge properly, since the grinding bevel is much thinner.

The Hatchet is tempered very hard, as far as the light discoloration seen on the print. If the Hatchet is desired to be used still further, it can be rehardened and tempered—another feature of advantage over the old style Hatchets.

Lastly, we think, the Zenith Wedge is the best "Handle Fastening" yet evolved.

## WHY ZENITH HATCHETS ARE BEST



See Preceding Page for Explanation

No. 6 Zenith

No. 5  
No. 4  
No. 3  
No. 2  
Made by four of the best known manufacturers in the United States

No. 1

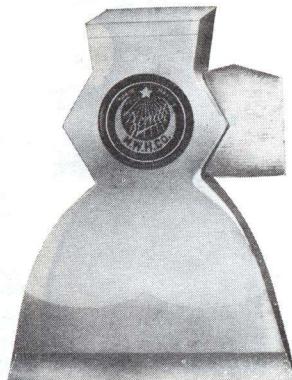
## ZENITH BROAD OR BENCH HATCHETS

For General Use by Carpenters, Builders, Farmers and for Household Purposes

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## ZENITH, WARRANTED

Zenith Quality Crucible Steel; Specially Tempered, Cutting Edge and Head, Perfect Bevel, Ground and Honed; True Hang, Selected Hickory, Shaped Handle; Zenith Wedge Lock

## FULL POLISHED AND ETCHED

	Each
No. ZB1P—Size 1, 3½ in. Cut; Weight 1½ Lbs.	
Each	\$1.20
No. ZB2P—Size 2, 4½ in. Cut; Weight 2 Lbs.	
Each	1.30
No. ZB3P—Size 3, 5 in. Cut; Weight 2½ Lbs.	
Each	1.50
No. ZB4P—Size 4, 5½ in. Cut; Weight 3½ Lbs.	
Each	1.60
No. ZB5P—Size 5, 6 in. Cut; Weight 3½ Lbs.	
Each	1.75

## HALF POLISHED

	Each
No. ZB1G—Size 1, 3½ in. Cut; Weight 1½ Lbs.	
Each	\$1.00
No. ZB2G—Size 2, 4½ in. Cut; Weight 2 Lbs.	
Each	1.10
No. ZB3G—Size 3, 5 in. Cut; Weight 2½ Lbs.	
Each	1.25
No. ZB4G—Size 4, 5½ in. Cut; Weight 3½ Lbs.	
Each	1.35
No. ZB5G—Size 5, 6 in. Cut; Weight 3½ Lbs.	
Each	1.60
No. ZB6G—Size 6, 6½ in. Cut; Weight 4½ Lbs.	
Each	1.75

## ZENITH FLOORING HATCHETS

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## ZENITH, HALF POLISHED

Polished Bit and Head, Balance Gold Bronzed; Extra Fine Grade Crucible Steel; Specially Tempered Cutting Edge and Head; Perfect Bevel, Ground and Honed; Selected Hickory Handle; Zenith Wedge Lock.

No. ZF2G—Size 2, 4½ in. Cut; Weight 2½ Lbs. Each.....

Each

\$1.20

## ZENITH CLAW HATCHETS

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## ZENITH, WARRANTED

Extra Quality Crucible Steel; Specially Tempered Cutting Edge and Head; Perfect Bevel; Ground and Honed; Selected Hickory, Shaped Handle; Zenith Wedge Lock

## FULL POLISHED AND ETCHED

	Each
No. ZC1P—Size 1, 3½ in. Cut; Weight 1½ Lbs.	
Each .....	\$1.00

No. ZC2P—Size 2, 3½ in. Cut; Weight 2 Lbs.	Each
Each .....	1.10

## HALF POLISHED

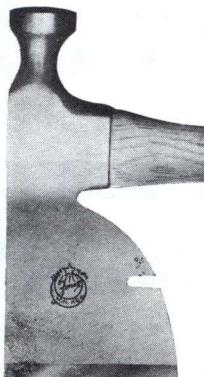
	Each
No. ZC1G—Size 1, 3½ in. Cut; Weight 1½ Lbs.	
Each .....	\$0.90
No. ZC2G—Size 2, 3½ in. Cut; Weight 2 Lbs.	
Each .....	.95
No. ZC3G—Size 3, 4½ in. Cut; Weight 2½ Lbs.	
Each .....	1.00

## ZENITH HALF HATCHETS

Unconditionally



Guaranteed



## ZENITH, HAINES PATTERN

Crucible Tool Steel, Full Polished; Razor Edge; Tempered Bell-Faced Head, Adze Eye; Perfect Bevel, Ground and Honed; Zenith Wedge Lock.

No. ZHH1—Size 1, 3 in. Cut; Weight 1½ Lbs.	Each
Each .....	\$1.25

## ZENITH, HALF POLISHED

Extra Quality Crucible Steel, Half Polished; Tempered Octagon Head and Cutting Edge; Perfect Bevel, Ground and Honed; Selected Hickory, Shaped Handle; Zenith Wedge Lock.	Each
No. ZH1G—Size 1, 3½ in. Cut; Weight 1½ Lbs.	
Each .....	\$0.85
No. ZH2G—Size 2, 3½ in. Cut; Weight 2 Lbs.	
Each .....	.90

## ZENITH SHINGLING HATCHETS



Unconditionally



Guaranteed



## ZENITH, HAINES PATTERN

**ZENITH, WARRANTED**  
Extra Quality Crucible Steel, Tempered Octagon Steel Head and Cutting Edge; Perfect Bevel; Ground and Honed; Selected Hickory, Shaped Handle; Zenith Wedge Lock.

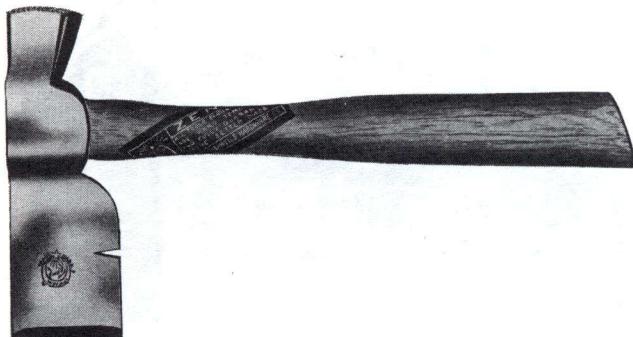
**FULL POLISHED AND ETCHED** Each  
No. ZS1P—Size 1, 3 $\frac{1}{2}$  in. Cut; Weight 1 $\frac{1}{2}$  Lbs.  
Each ..... \$1.00

**HALF POLISHED** Each  
No. ZS1G—Size 1, 3 $\frac{1}{2}$  in. Cut; Weight 1 $\frac{1}{2}$  Lbs.  
Each ..... \$0.80  
No. ZS2G—Size 2, 3 $\frac{7}{8}$  in. Cut; Weight 2 Lbs.  
Each ..... .85

**Crucible Tool Steel, Full Polished, Razor Edge; Tempered Bell-Faced Head, Adze Eye; Selected Hickory Handle; Zenith Wedge Lock.**

**No. ZSH1—Size 1, 3 $\frac{1}{2}$  in. Cut; Weight 1 $\frac{1}{2}$  Lbs.**  
Each ..... \$1.25

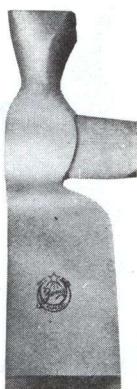
## ZENITH BOX HATCHETS



## ZENITH, FULL POLISHED

**No. Z13—2 $\frac{1}{2}$  in. Cut; Extra Quality Steel, Full Polished and Stamped; Milled Head, 13 Rows, 169 Points, Rounded Top; Size 1 $\frac{1}{2}$  x 1 $\frac{1}{4}$  in.; Crucible Steel Cutting Edge, Perfect Bevel Ground and Honed; Selected Hickory Handle, with Beveled End to prevent catching coat sleeve; Zenith Wedge Lock; Weight 1 $\frac{1}{2}$  Lbs. Each..... \$1.50**

## ZENITH LATHING HATCHETS



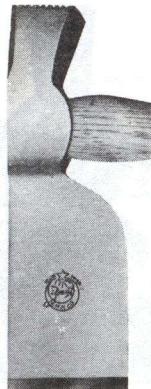
## ZENITH, BOSTON PATTERN

Crucible Tool Steel, Full Polished; Razor Edge  
Each  
No. ZBL8—Round Neck; Square Face, 1½ in. Diam.; 8 Rows, 64 Points; 2 in. Cut; Used in all Sections of the Country; Weight 22 Oz. Each.....\$1.50

Unconditionally

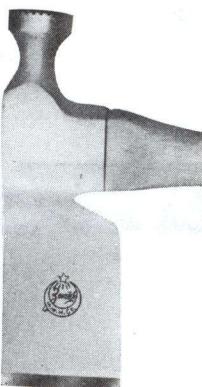


Guaranteed



## ZENITH, REGULAR PATTERN

Crucible Tool Steel, Full Polished; Razor Edge, Hardened Head; Light and Well Balanced  
Each  
No. ZL8—Boston Pattern, 8 Rows, 64 Points; Head 1½ in. Square; Wt. 15 Oz. Each.....\$1.75  
No. ZL9—Chicago Pattern, 9 Rows, 81 Points; Head 1½ in. Square; Weight 19 Oz. Each.....2.00  
No. ZL10—Duluth Pattern, 10 Rows, 100 Points; Head 1½ in. Square; Weight 21 Oz. Each.....2.25



## ZENITH, HAINES PATTERN

Crucible Tool Steel, Full Polished; Razor Edge, Hardened Round Head, Bell Face 1½ in. Diam., 9 Rows of Points; Ground and Honed; Light and Well Balanced  
Each  
No. ZLH1—Size 1, 2½ in. Cut; Weight 21 Oz. Each.....\$1.35

Unconditionally



Guaranteed



## ZENITH, WARRANTED

Extra Quality Crucible Steel, Half Polished; Tempered Octagon Steel Head, and Cutting Edge; Perfect Bevel, Ground and Honed; Selected Hickory, Shaped Handle  
Each  
No. ZL1G—Size 1, 2½ in. Cut; Weight 22 Oz. Each.....\$0.80

## ZENITH ADZES



Unconditionally



Guaranteed



## LIPPED BIT SHIP

**CARPENTERS' HALF HEAD**  
 For Carpenters, Beam Workers and Wagon  
 Makers Each  
 No. ZC341—Assorted 3½ to 4½ in. Cut; Extra  
 Quality Tool Steel, Black Finish, Pol-  
 ished Bit and Head; Crucible Tool  
 Steel Cutting Edge, Hardened Head;  
 Eye Punched from Solid Stock; Ground  
 and Sharpened ..... \$2.00  
 Average Weight 4½ Lbs. Each

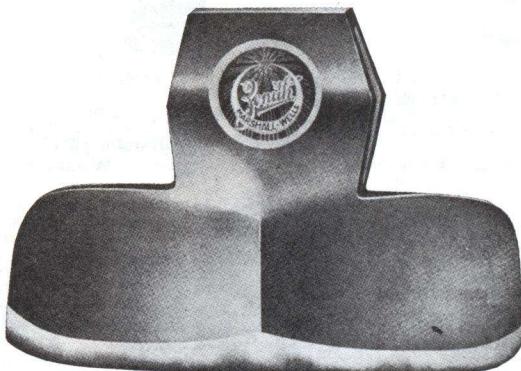
Each  
 No. ZS441L—4 to 4½ in. Cut; Extra Quality  
 Tool Steel, Black Finish, Embossed  
 Label, Polished Front of Bit; Crucible  
 Tool Steel Cutting Edge, Hardened Head  
 and Spur; Ground and Sharpened..... \$3.00  
 Average Weight 4½ Lbs. Each

## ZENITH BROAD AXES

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## IMPROVED ZENITH

This is the Finest Broad Axe that can be made; in addition to being forged from a Special Alloy Steel and Tempered and Toughened under an absolutely uniform and perfect Heat Treatment, it is specially shaped and ground, so that the back of the Axe, if tested with a Straight Edge, will be found to be true in any direction in which the Straight Edge may be placed; all forging strains have been drawn out of the Zenith Improved and the Axe will always retain its proper shape under any working conditions; Every Axe is carefully tested, and is subject to an Unconditional Guarantee.

Nos.	ZW6B	ZW6½B	ZW7B	ZW7½B	ZW8B
Weight, Lbs.	6	6½	7	7½	8
Width Cut, In.	10½	11	11½	12	12½
Each	\$5.00	5.00	5.00	5.00	5.00

## ZENITH AXES



## ZENITH MEN'S AXES

Full Polished, Blued Finish  
With Good Grade Hickory Handle Each  
No. 106—Wisconsin Pattern; 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$  Lbs.\$1.75  
No. 107—Michigan Pattern; 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$  Lbs.... 1.75

With Good Grade Oak Handle Each  
No. 206—Wisconsin Pattern; 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$  Lbs.\$1.65  
No. 207—Michigan Pattern, 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$  Lbs..... 1.65



## ZENITH SPORTSMAN'S BOY SCOUT

5 in. High, 2 $\frac{7}{8}$  in. Cut, Extra Quality Tool Steel, Full Polished and Etched; Perfectly Tempered Razor Edge; 13 in. Selected Shaped Hickory Handle; Zenith Wedge Lock.

Each  
No. ZOP—Boy Scout; Weight without Handle 1 Lb. Each..... \$1.00



ZENITH BOYS' AXES Each  
No. Z2P—2 $\frac{1}{2}$  Lbs., 4 in. Cut; Extra Tool Steel, Full Polished and Etched; 28 in. Second Growth Hickory Handle; Zenith Wedge Lock ..... \$1.25  
Weight 3 $\frac{3}{4}$  Lbs. Each

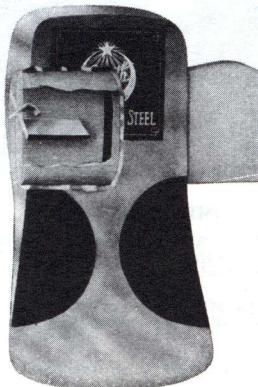


ZENITH SPECIAL CRUISERS' Each  
No. ZS21—2 $\frac{1}{2}$  Lbs., 4 in. Cut; Full Polished; Blue Bevel; Zenith Label; 18 in. Hickory Handle; Zenith Wedge Lock..... \$1.00  
Weight 3 Lbs. Each

Unconditionally



Guaranteed



Unconditionally



Guaranteed

Showing Zenith Axe Wedge Lock Used in Axes on this Page

## ZENITH NAIL HAMMERS

### DO IT YOURSELF

If a dozen different hammers were given you, with all the identification marks removed, for a few tests of practical use we would suggest that you drive 8 and 10d casing nails in oak or maple, clear to the head, then turn the board over on the other side and **pull the heads of the nails clear through the wood**. Or drive 8 or 10 common into 2x4 pine and draw the nails out with its head last.

There are so many times that a nail head is driven off in the board that this test is quite essential; the nail must be removed by the bite of the claws.

### NEITHER MAY SURVIVE; BUT THE BETTER HAMMER WILL PROVE ITS METTLE

Take a Zenith cold chisel, put it in a vise with the bit up, and give the face of any two hammers this supreme comparative test—just the severest possible punishment, of hammering down the cutting edge of the cold chisel.

Next see how heavy blows you can strike with the claw against a blacksmith anvil, before the claw shows any sign of yielding.

Lastly, see how many nails, gripped in the vise, you can sidestrip before the claw is dulled.

### ZENITH THE WINNER

We will guarantee that when you tabulate the record on those tests, the hammer standing up the best—far ahead of all the others, will be the Zenith brand, if it has the special Zenith wedge lock and Zenith special shape handle.

### NOT FOR THE AMATEUR

The bell faced nail hammer is rounded or crowned, so that a nail may be driven clear into the wood without defacing the woodwork finish. Thus an amateur using a crown faced hammer is at a disadvantage if he does not strike a true blow.

Ordinarily speaking, he would do better if he used the flat faced hammer, which will not slip off the nail head, even if struck near its outer edge.

### FOR THE EXPERT

But, getting back to the hammer that is suited for the most expert user, we would say that the center of the face must be very hard, with the edges a little softer and more toughened against brittleness.

To achieve this desirable point, a stream of cold water is directed against the center of the face. At the first impact, of course, it is colder, but as it flows out over the edges, its being a little warmer, gives those edges the desired extra toughness.

The neck and eye of the hammer are softer, to withstand the vibrations of constant blows without fatigue and cracking.

A hammer claw, in ripping old work, is so frequently used as a crow bar that only its biting edges need to be hard; the rest of the claw must be tough, so the Zenith claw part is tempered in oil.

One special feature of the Zenith nail claw is that the gripping edges are made like a cold chisel bit. On every hammer, there is but one point that will bite: an 8d, 10d and 20d nail in those claws, and when that one point is dulled or defaced or nicked,—because they are made so fine, the usefulness of the hammer for that size nail is lost.

With the Zenith claw, however, if its cold-chisel-like edges become dulled, a few strokes on the outside with a knife bastard or slim

tapered file quickly restore its sharpness and bite. The cold chisel edge has more body and backing.

### TRY IT

By turning the hammer over on its claw and letting it come to a balance, you will see that a dozen Zenith handles all remain at about the same point, showing how uniform and how perfect is the balance, that the full force of the blow will be centered on the face of the hammer, as the hand comes to final position at the end of the drive.

The adze eyes of Zenith nail hammers are tapered or flaring outward like a funnel, and are left rough inside, so that when the wedge spreads the wood, it is absolutely impossible for that handle to come loose or the head to fly off.



### THEN THE WEDGE LOCK

The Zenith patent wedge lock is worthy of particular notice. It is exclusively controlled by Marshall-Wells, for use only in Zenith tools, put into such, but never sold separately.

This malleable iron wedge is ordinary shape, the patented feature being a thin piece of steel that is driven through a curved slot in the wedge, following that curve with a wide cup-shaped bite into the wood, which makes it impossible to move either in or out.

### THE SHAPE OF THE HANDLE

We have previously mentioned the special Zenith shape in nail hammer handles, which a child has only to see to appreciate.

It is thin at the neck, to give sufficient spring to relieve the wrist from the jar and vibration of constant use, is swelled at the center, fashioned to fit the hand where the hand should grip, and swells out again to form a slight knob at the end, giving a sure-grip, non-slipping handle, which a man can drive all day and not tire his arm, because it is not necessary to keep a constant, tight tension to retain hold of the handle.

Our specifications for Zenith nail hammer handles are that the hickory shall be strictly second growth young timber, and the bolts shall be split with the grain, so as not to cross it.

These handles are belted very carefully for perfect smoothness and are air seasoned (not kiln dried, which takes the life out of timber).

### THEY STAND THE CLIMATE

Just before being placed in the hammer, the eye end of the handle is heated, to remove every particle of moisture, so that no dryness of climate, such as in Montana, will ever cause a Zenith tool to shake loose.

Zenith hammers have the right shape, have the right fit, have the right feel and have the right balance.

## ZENITH NAIL HAMMERS

This Grade of Hammers is used by the most exacting Artisans; every Detail of Manufacture, as to Materials, Finish, Temper, Balance, etc., is Perfect, Claws run to such a Fine Point they will draw the smallest Brad or the heaviest Nail



ARTISAN'S CHOICE PATTERN



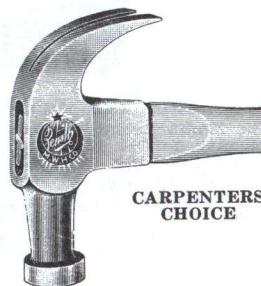
GERMANTOWN PATTERN

## ZENITH

No. ZA1N—Size 1 $\frac{1}{2}$ , Weight without Handle 1 lb.; Diam. of Face 1 in.; Solid Crucible Steel, Nickel Plated; Octagon Neck and Poll, Bell Face; Mahogany Handle

Each \$1.25

No. ZG1 $\frac{1}{2}$ N—Size 1 $\frac{1}{2}$ , Weight without Handle 1 Lb.; Diam. of Face 1 in.; Solid Crucible Steel, Nickel Plated, Round Neck and Octagon Poll, Bell Face; Selected Second Growth Hickory Handle.....\$1.25



CARPENTERS' CHOICE

## ZENITH

Solid Crucible Steel, Nickel Plated; Round Neck and Poll, Bell Face; 2nd Growth Hickory Handle Diam. Wt. Less Weight

Nos.	Size	Face, In.	Handle	Dz. Lbs.	Each
Z1N	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$ lbs.	22	\$1.10
Z1 $\frac{1}{2}$ N	1 $\frac{1}{2}$	1 $\frac{1}{16}$	1 lb.	18	1.00
Z2N	2	1	13 oz.	15	.95
Z3N	3	$\frac{3}{4}$	7 oz.	9	.90

Round Poll, Bell Face; Solid Crucible Steel, Polished, Perfectly Tempered; Selected Second Growth Hickory Handle.

Nos.	Size	Face, In.	Handle	Dz. Lbs.	Each
Z711	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$ lbs.	21	\$0.80
Z711 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{16}$	1 lb.	18	.75
Z712	2	1	13 oz.	15	.70



ZENITH, STANDARD PATTERN  
Solid Crucible Steel, Full Polished, Perfectly Tempered; Second Growth Hickory Handle.

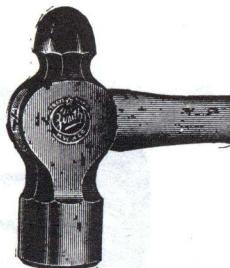
## PLAIN FACE

Nos.	Size	Diam.	Wt.	Less	Weight
		Face, In.	Handle	Dz. Lbs.	Each
Z1	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$ lbs.	22	\$0.80
Z1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{16}$	1 lb.	18	.75
Z2	2	1	13 oz.	15	.70

## BELL FACE

Nos.	Size	Diam.	Wt.	Less	Weight
		Face, In.	Handle	Dz. Lbs.	Each
Z11	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$ lbs.	22	\$0.80
Z11 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{16}$	1 lb.	18	.75
Z12	2	1	13 oz.	15	.70
Z12 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{8}$	12 oz.	13	.70
Z13	3	$\frac{3}{4}$	7 oz.	9	.70
Z14	4	$1\frac{1}{16}$	4 oz.	4	.65

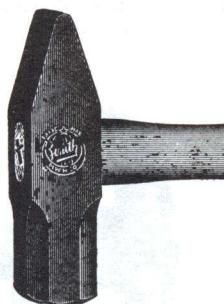
## ZENITH HAMMERS



Unconditionally



Guaranteed



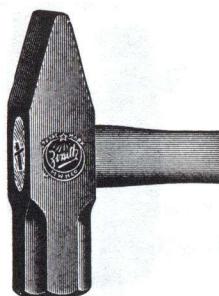
## ZENITH, ENGINEERS' PATTERN

Generally used by Machinists, Structural Steel and Iron Workers, Bridge Builders, etc.; Large End for Driving Bolts and Rivets, Small End for Riveting.

Nos.	Size	Wt. Less Head	Wt. Per Handle	Wt. Per Dozen	Each
Z5-0	$\frac{3}{4} \times 2\frac{1}{2}$	4 oz.	5	\$0.60	
Z4-0	$\frac{3}{4} \times 3$	6 oz.	$6\frac{1}{2}$	.60	
Z4-0	$1 \frac{1}{2} \times 3\frac{1}{2}$	8 oz.	$10\frac{1}{2}$	.60	
Z2-0	$1 \frac{1}{2} \times 3\frac{1}{2}$	12 oz.	14	.60	
Z0	$1 \frac{1}{2} \times 4\frac{1}{2}$	1 lb.	16	.60	
Z1	$1 \frac{1}{2} \times 4\frac{1}{2}$	$1\frac{1}{2}$ lbs.	20	.65	
Z2	$1 \frac{1}{2} \times 4\frac{1}{2}$	$1\frac{1}{2}$ lbs.	24	.65	
Z3	$1 \frac{1}{2} \times 4\frac{1}{2}$	$1\frac{1}{2}$ lbs.	26	.70	
Z4	$1 \frac{1}{2} \times 4\frac{1}{2}$	$2\frac{1}{2}$ lbs.	27	.75	
Z5	$1 \frac{1}{2} \times 5$	$2\frac{1}{2}$ lbs.	$33\frac{1}{2}$	.85	
Z6	$1 \frac{1}{2} \times 5\frac{1}{2}$	$2\frac{1}{2}$ lbs.	$37\frac{1}{2}$	1.00	

Solid Crucible Steel, Polished; Cross Pein; Used for all Steel and Iron Work by Machinists, Blacksmiths, etc.

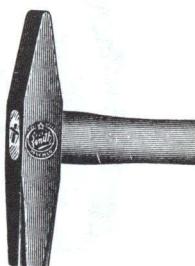
Nos.	Size	Wt. Less Head	Wt. Per Handle	Wt. Per Dozen	Each
Z0E	$1 \frac{1}{2} \times 4$	$1\frac{1}{2}$ lbs.	$18\frac{1}{2}$	\$0.65	
Z1E	$1 \frac{1}{2} \times 4\frac{1}{2}$	$1\frac{1}{2}$ lbs.	$22\frac{1}{2}$	.70	
Z2E	$1 \frac{1}{2} \times 4\frac{1}{2}$	2 lbs.	$28\frac{1}{2}$	.75	
Z3E	$1 \frac{1}{2} \times 4\frac{1}{2}$	$2\frac{1}{2}$ lbs.	$34\frac{1}{2}$	.85	
Z4E	$1 \frac{1}{2} \times 5$	3 lbs.	42	.90	
Z5E	$1 \frac{1}{2} \times 5\frac{1}{2}$	$3\frac{1}{2}$ lbs.	50	1.00	



Unconditionally



Guaranteed



## ZENITH PLOW PATTERN

Solid Crucible Steel, Natural Black Finish, Cross Pein, for Beating Out and Sharpening Plow Points and all Steel and Iron Work; also used in place of Engineers' Hammer.

Nos.	Size	Wt. Less Head	Wt. Per Handle	Wt. Per Dozen	Each
Z0P	$1 \frac{1}{2} \times 4\frac{1}{2}$	$1\frac{1}{2}$ lbs.	$18\frac{1}{2}$	\$0.65	
Z1P	$1 \frac{1}{2} \times 4\frac{1}{2}$	$1\frac{1}{2}$ lbs.	25	.70	
Z2P	$1 \frac{1}{2} \times 4\frac{1}{2}$	2 lbs.	$28\frac{1}{2}$	.75	
Z3P	$1 \frac{1}{2} \times 4\frac{1}{2}$	$2\frac{1}{2}$ lbs.	$34\frac{1}{2}$	.80	

Solid Crucible Steel, Polished; Selected Second Growth Hickory Handle.

Nos.	Size	Wt. Less Head	Wt. Per Handle	Wt. Per Dozen	Each
Z0R	$\frac{9}{16} \times 3\frac{1}{2}$	4 oz.	5	\$0.50	
Z1R	$\frac{5}{8} \times 4$	7 oz.	8	.50	
Z2R	$\frac{5}{8} \times 4\frac{1}{2}$	9 oz.	$10\frac{1}{2}$	.60	
Z3R	$\frac{5}{8} \times 4\frac{1}{2}$	12 oz.	13	.60	
Z4R	$1 \times 4\frac{1}{2}$	15 oz.	15	.70	
Z5R	$1 \frac{1}{2} \times 5$	18 oz.	19	.70	

## ZENITH FARRIERS' HAMMERS

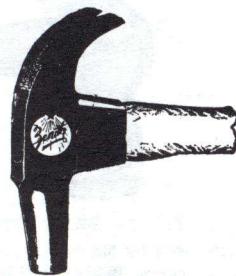
Every person who has occasion to use a Hammer of this kind wants one that is perfectly balanced and which is fitted with a first class, well shaped Handle. Our Zenith Hammers will prove their unsurpassed qualities every time they are used.



### Unconditionally



### Guaranteed



**Solid Crucible Steel, Polished; Perfectly Tempered, Nicely Balanced; 14 in. Selected Handle;  
Ounce Weights do not include Handles**

## ZENITH, BOSTON PATTERN

## Octagon Poll

Each

No. ZB12—12 Oz. Size,  $\frac{9}{16}$  in. Face...

### ZENITH, ROUND POLL

Froeh

No. ZR7—7 Oz. Size,  $\frac{9}{16}$  in. Face..... Each \$0.65

## BLACKSMITH HAND HAMMERS

## COPPER HAMMERS

### Without Handles



ZENITH

The Zenith Blacksmith's Hammer is one that is built for service and hard work; if it is unsatisfactory return it and get your money back; All Zenith goods are unconditionally guaranteed.

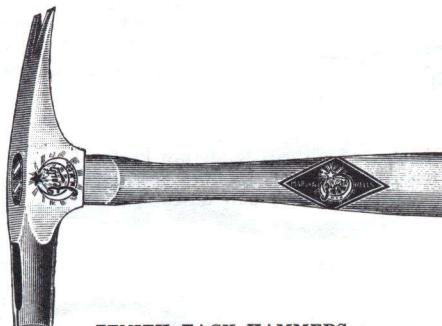
Best Quality Tough Steel, Polished and Etched; Selected Second Growth Hickory Handle, Zenith Wedge Lock.

Nos.	Size Head	Wt. Less Handle Lbs.
Z1	1 $\frac{3}{4}$ x 4 $\frac{1}{2}$	2
Z2	1 $\frac{1}{2}$ x 4 $\frac{1}{2}$	2 $\frac{1}{2}$
Z3	1 $\frac{1}{2}$ x 5	3

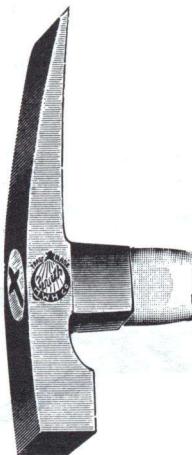
For use in Setting Up and Adjusting Machinery or wherever there is likely to be Damage done to Bolt Threads, Shafts, etc.; perfectly Safe to use in Powder Mills, etc.

Nos.	Wt. Lbs.	Size, In.	Each
2	2	4 x 1 $\frac{1}{8}$	\$0.80
2 $\frac{1}{2}$	2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	1.00
3	3	3 $\frac{3}{4}$ x 1 $\frac{1}{4}$	1.20
3 $\frac{1}{2}$	3 $\frac{1}{2}$	4 $\frac{3}{4}$ x 1 $\frac{1}{4}$	1.40
4	4	5 x 1 $\frac{1}{8}$	1.60

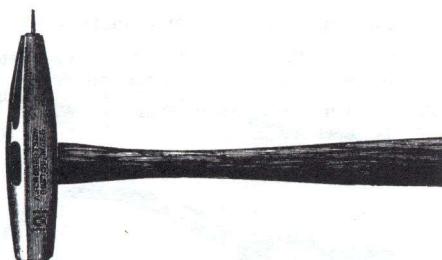
## ZENITH HAMMERS AND PICKS



**ZENITH TACK HAMMERS** Each  
**No. 100**—4 $\frac{1}{2}$  in. Polished Steel Head;  $\frac{1}{2}$  in. Face; Upper End of Head is a Good Tack Puller, Strong, Permanent Magnet; Will Handle Tacks, Brads, Small Nails, etc.; 9 $\frac{1}{2}$  in. Hickory Handle; Weight 10 Oz.....\$0.60



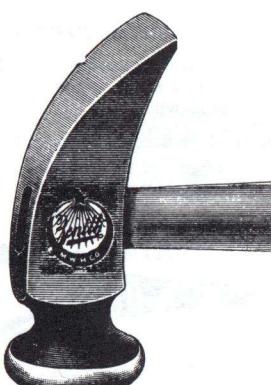
**BRICKLAYERS' HAMMERS**  
 For Laying Brick Pavements, Breaking and Cleaning Bricks, etc.



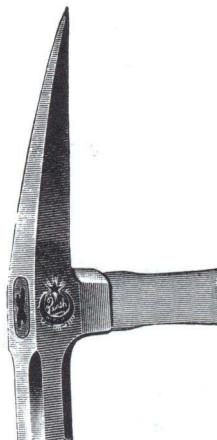
**ZENITH BERRY BOX, MAGNETIC** Each  
**No. 80**—4 Oz., Polished Steel, Square Head; Selected 12 in. Handle; For Use in House, Shop or by Berry Box Makers.....\$0.50

**ZENITH**  
 Solid Crucible Steel, Selected Hickory Handle  
**No. Z20**—Size 2, Adze Eye, Length 7 in.; Square Head, Diam.  $\frac{1}{2}$  in.; Weight Less Handle, 1 $\frac{1}{2}$  Lbs. ....\$1.15

**ZENITH, HAND MADE**  
 Black Finish; Polished Face; especially adapted for use in lining Steel Furnaces or other work where very hard brick is used. Each  
**No. ZF2**—Length 9 $\frac{1}{2}$  in.; Length of Claw 5 $\frac{1}{2}$  in.; Size of Face 1x1 $\frac{1}{2}$  in.; Wt. 3 Lbs.....\$1.15



**ZENITH SHOE MAKERS' HAMMERS**  
 Solid Cast Steel, Polished and Etched; Plain Hardwood Handle Each  
**No. Z1**—Weight without Handle 13 Oz.; Face 1 $\frac{1}{2}$  in. Diam., Head 3 $\frac{3}{4}$  in. Over-all.....\$0.50  
**No. Z2**—Weight without Handle 15 Oz.; Face 1 $\frac{1}{2}$  in. Diam., Head 4 in. Over-all..... .50



**ZENITH PROSPECTING PICKS**  
 Used by Prospectors and Miners Each  
**No. Z1P**—Adze Eye; Size of Head  $\frac{1}{2}$ x7 $\frac{1}{2}$  in.; Weight, less Handle, 1 Lb.; 13 in. Handle.....\$1.00

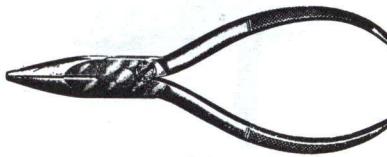
## ZENITH PLIERS

Unconditionally



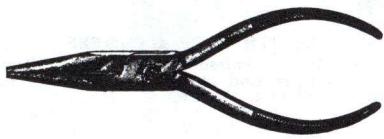
Guaranteed

Zenith Pliers are Extra Quality Crucible Tool Steel, Extra Finished, Joints are Perfectly Fitted; Jaws specially Tempered and Milled to fit true, when closed; Handles all Knurled, giving an Easy and Sure Grip for the Hand; Every pair tested



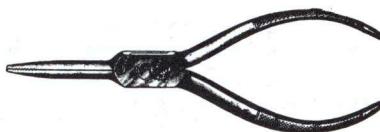
## LONG CHAIN NOSE

Long Oval Points, Highly Polished; Favorite Plier with Electricians and Wireworkers  
Each  
No. 10—5½ in. Long, Highly Polished; Weight 3 Oz. Each ..... \$0.75



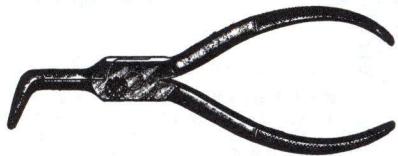
## LONG CHAIN NOSE; SIDE CUTTING

A very useful Plier; Shaped especially for Deep Narrow places; Tempered Cutting Edges  
Each  
No. 20—5½ in. Long, Highly Polished; Weight 3 Oz. Each ..... \$1.00



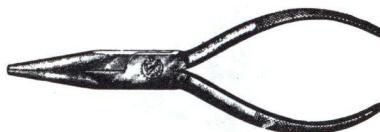
## STRAIGHT NEEDLE NOSE

For Fine Work in Deep, Narrow places; generally used by Electrical Workers, Opticians, Jewelers, etc.  
Each  
No. 30—5½ in. Long, Highly Polished; Weight 2½ Oz. Each ..... \$1.00



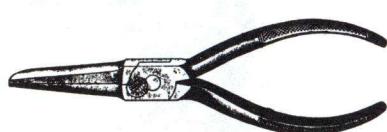
## CURVED NEEDLE NOSE

The curved nose makes this Plier adapted for use in corners or close places impossible to reach otherwise.  
Each  
No. 40—5½ in. Long, Highly Polished; Weight 2½ Oz. Each ..... \$1.00



## MILLINERS' SIDE CUTTING

Oval Jaws and Side Cutters; Used mainly by Milliners for making Hat Frames; by Jewelers, etc.  
Each  
No. 50—5½ in. Long; Highly Polished; Weight 3 Oz. Each ..... \$0.75



## WEAVERS'

With one Concave and one Convex Jaw; for straightening Reeds  
Each  
No. 60—5½ in. Long, Highly Polished; Weight 3 Oz. Each ..... \$1.00

## PLIERS

These are handy Tools for Gas Fitters, Plumbers, Machinists and Electricians and very useful around Automobiles, Farm Machinery, Naphtha Launches, etc.; Round, Straight, Tapering and Oval Shaped pieces can be easily held, and the Jaws give the greatest parallel grasping surface; by turning Handle slightly and sliding Jaw from one hole to the other, it changes from Gas Burner size to  $\frac{1}{4}$  in. Pipe Burner size.



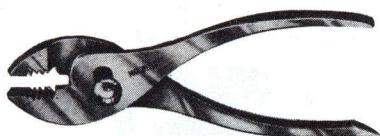
ZENITH COMBINATION

No. 7—Length 7 in., Nickel Plated; Best Quality Steel, Drop Forged, Nicely Finished; takes from  $\frac{1}{4}$  to 1 in Pipe; Ends of Jaws shaped to grasp square pieces easily; Wrench and Screw Driver combined; for Medium work; Weight 8 Oz. Each.....\$0.75



ZENITH SIDE CUTTING

No. 17—Length 7 in.; Forged Steel, Nickel Plated; Milled Jaws take from  $\frac{3}{16}$  to 1 in. Pipe; Knurled Handles Combined Wire Cutters, Wrench and Screw Driver with Pliers; Weight 8 Oz. Each.....\$0.75



MARSWELLS COMBINATION

Combined Gas Pliers, Wire Cutter, Screw Driver and Wire Splicer; Has Groove in Jaw for Wire; Drop Forged Steel; Milled Jaws; Knurled Handles; Nickel Plated.

No. ....	6
Length, Inches .....	6
Takes Pipe, Inches .....	$\frac{1}{2}$ to 1
Weight Each, Oz.....	9
Each .....	\$0.50



ZENITH DIAGONAL CUTTING

For light work by Jewelers, Electricians and Model Makers; the Cutting Edges are in a line with the Handles, overcoming the tendency to twist.

No. 70—5 in. Long, Forged from Crucible Steel, Highly Polished; Knurled Handles, Heavy Rivet; Weight 3 Oz. Each.....	\$1.00
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HARTFORD COMBINATION

Combined Gas Plier, Wire Cutter, Screw Driver and Wrench; Drop Forged Tool Steel; Oil Tempered.

No. 26—Nickel Plated

Length, In. ....	5	6	8	10
Takes Pipe, In. ....	$\frac{1}{2}$ to 1	$\frac{1}{2}$ to 1	$\frac{1}{2}$ to 1 $\frac{1}{4}$	$\frac{1}{2}$ to 1 $\frac{1}{4}$
Weight Each, Oz.....	6	8	12	16
Each .....	\$0.50	.50	.60	.75

No. 026—Oil Finish

Length, In. ....	6	8	10
Takes Pipe, In. ....	$\frac{1}{2}$ to 1	$\frac{1}{2}$ to 1 $\frac{1}{4}$	$\frac{1}{2}$ to 1 $\frac{1}{4}$
Weight Each, Oz.....	8	12	16
Each .....	\$0.35	.50	.60

HARTFORD, SIDE CUTTING

Combined Gas Plier, Screw Driver and Wire Cutter; Drop Forged Tool Steel, Milled Jaws; Plain Handles; Nickel Plated.

No. ....	16
Length, Inches .....	6
Takes Pipe, Inches .....	$\frac{1}{2}$ to 1
Weight Each, Oz.....	7
Each .....	\$0.60

A good Plier is one of the handiest Tools which a man can carry with him; there are thousands of uses to which they can be put all the time.

## ZENITH PLIERS

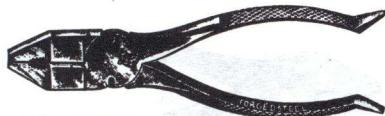


No. 112—ZENITH, KLEIN PATTERN  
Side Cutting, Open Jaw

In the Klein Pattern of Pliers, the Knives cut cleanly, clear through the insulation, because the Jaws do not quite meet.

Hand Forged from Extra Tool Steel, carefully tempered; Easy Cutting; Full Polished; Knurled Handles; Fully Guaranteed.

Length, In.	6½	7½	8½
Weight Each, Lb.	½	¾	1
Each	\$1.40	1.65	2.00



ZENITH UNIVERSAL COMBINATION

One Handle has a Square End for Reamer, the other has a Screw Driver Point.

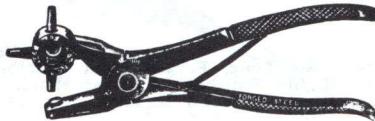
Each

No. 600—Length 7½ in., Flat Nose; Gas Pipe Holding; Side and Button Pattern Cutting; Forged from Best Quality Plier Steel; Knurled Handles; Polished Head.....	\$1.25
Weight ½ Lb. Each	

## BELT AND STRAP PUNCHES

## SADDLERS' OR BELT PUNCHES

For Punching Holes in Leather to Hold the Rivet



ZENITH SPRING REVOLVING

Each  
No. 18—Drop Forged Steel, Full Polished, 9 in. Long; Knurled Handles; Four Tubes, Assorted Sizes 4, 6, 7 and 9; Made from Solid Steel Rod; Tempered Steel Spring; Easy Working Joints; Very Handy for all kinds of Leather Work and Repairing.....\$0.75  
Weight 1 Lb. Each



No. 110—ZENITH

Solid Steel, Full Polished, Drilled and Reamed; Length 3½ in.

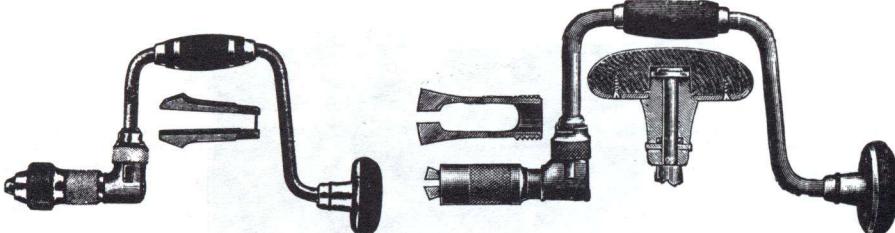
Size Nos.	1 2 3 4 5 6	7 8 9	10 12
Weight Dozen, Lbs...	½ to 1	1½ to 1¾	1½ to 1¾
Each.....	\$0.25	.25	.25

In case the purchaser wishes to determine the size of Punch wanted the illustration below will show at a glance the size of each number



Shows Actual Size of Holes Punched by Different Sizes of Dies in above Punches

## BIT BRACES



## ZENITH RATCHET

For Extra Heavy Work by Bridge, Car and Ship Builders, Plumbers, Electricians, etc. Has Ball Bearing Chuck, Dust Proof, Ball Bearing, Lignum Vitae, Steel-Clad Head; Forged Steel Alligator Jaws; Steel Sweep, Cocobolo Handle, reinforced with 2 Nickel Plated Rings; Improved Ratchet Pawls act direct on the Socket Post; The Chuck is the strongest gripping device ever put on a Brace. Takes Round Taper Shank or Square Shank Drills, Expansive and Common Bits.

Each

No. Z810—10 in. Sweep; Wt. 3 $\frac{1}{2}$  Lbs. Each....\$2.75  
No. Z812—12 in. Sweep; Wt. 3 $\frac{1}{4}$  Lbs. Each.... 3.00  
No. Z814—14 in. Sweep; Wt. 4 Lbs. Each.... 3.25

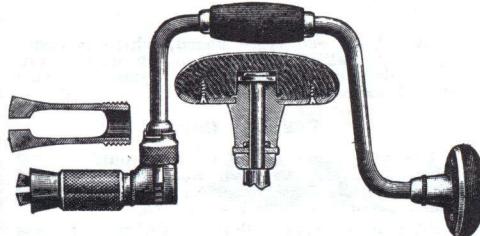
## ZENITH RATCHET

Will Self Center any Standard Square Shank Auger Bit; this makes it a Time Saver; the Ball Bearing Head and Ball Bearing Chuck gives Smooth, Easy Action to each adjustment.

Enclosed Box Frame, Ring Ratchet; Forged Steel, Tempered Jaws, Machine Cut Threads; Extra Heavy Knurled Sleeve gives a good grip to the hand and insures a powerful grip to the Bit; a slight pressure releases the Chuck from the Bit; Nickel Plated and Highly Polished; Cocobolo Head and Handle; Pressed Steel Metal Capped Ball Bearing Head.

Each

No. Z210—10 in. Sweep; Wt. 2 $\frac{1}{2}$  Lbs. Each....\$2.75  
No. Z212—12 in. Sweep; Wt. 3 $\frac{1}{2}$  Lbs. Each.... 3.00  
No. Z214—14 in. Sweep; Wt. 3 $\frac{1}{4}$  Lbs. Each.... 3.25

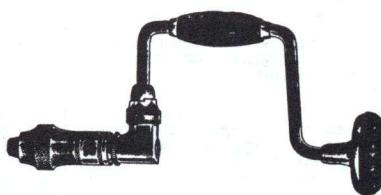


## ZENITH RATCHET

Ring Ratchet, Exposed Gear; Forged Steel, Tempered Jaws, Machine Cut Threads; Extra Heavy Knurled Sleeve gives a good grip to the hand and insures a powerful grip to the Bit; a slight pressure releases the Chuck from the Bit; Jaws are Hardened Forged Steel and will hold all sizes of Square Shank Bits and small Round Shank Drills.

Each

No. Z110—10 in. Sweep; Wt. 2 $\frac{1}{2}$  Lbs. Each....\$2.25  
No. Z112—12 in. Sweep; Wt. 3 Lbs. Each.... 2.50  
No. Z114—14 in. Sweep; Wt. 3 $\frac{1}{4}$  Lbs. Each.... 2.75



## HARTFORD RATCHET

Heavy Steel Sweep and Thimble; Nickel Plated; Long Sleeve; Solid Steel Alligator Jaws; Ebonized Head and Handle; Head is Steel Clad to prevent Splitting.

Each

No. H6—6 in. Sweep; Wt. 2 Lbs. Each....\$1.25  
No. H8—8 in. Sweep; Wt. 2 $\frac{1}{2}$  Lbs. Each.... 1.50  
No. H10—10 in. Sweep; Wt. 2 $\frac{1}{3}$  Lbs. Each.... 1.75  
No. H12—12 in. Sweep; Wt. 2 $\frac{1}{2}$  Lbs. Each.... 2.00  
No. H14—14 in. Sweep; Wt. 2 $\frac{1}{4}$  Lbs. Each.... 2.25

## EXTENSION BIT HOLDERS

For Use in Connection with a Brace and Bit for Working into Places Inaccessible to Ordinary Tool



## ZENITH RAPID ACTING

Will Follow a  $\frac{1}{8}$  in. Bit

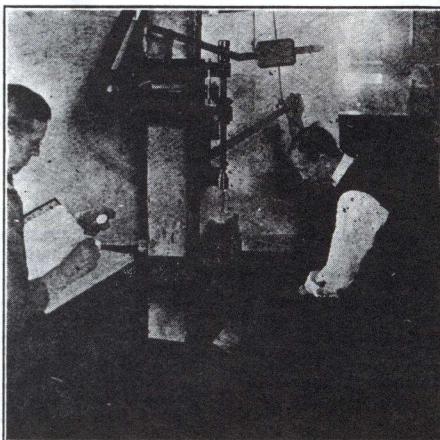
Consists of a Steel Shank, Inner and Outer Shell of Drawn Steel; Inner Shell is Adjusted by a Thumb Ring, which draws the Outer Shell down over the Inner Shell and Holds Bit Securely; Thumb Ring has Smaller Diameter than Outer Shell so that it cannot Loosen and allow Bit to drop out.

Each

No. Z15—Length 15 in.; Weight  $\frac{1}{4}$  Lb. Each.....\$1.25  
No. Z18—Length 18 in.; Weight 1 Lb. Each..... 1.50

One in a Box

## ZENITH AUGER BITS



Testing Auger Bits

A critical buyer of Auger Bits will examine the cutting head first. He will see on some that the edges have been just touched with a File, that the Cutter Lip is unfinished on its underside, irregular on top, not gradually tapered, and not smoothly led up to the finished point.

But on the Zenith Brand, whether Auger Bit of Jennings or Irwin Pattern, Car Bit, Ship Auger, etc., every head will be found perfectly finished, with the angles precisely aligned from screw point through Cutter Lip to the twist.

You will say that you know a certain Bit bores fast, another one bores slow, one bores easily and the other bores with considerable resistance. To be able to test those boring qualities and to determine further, by an exact measure, the wearing value of the Cutting Lip, of the various styles and makes, we devised the apparatus shown in the accompanying illustration.

Above the Operator's right hand you can see a weight, which varies the amount of pressure, according to the size of the Auger Bit under test; the power belt gives a uniform speed; the Operator, by the Hand Lever, removes the Bit from the work; the Testing Engineer, with book and stop Watch, records the various performances.

Beneath the Bit, on the Drill Table, is a Dial, graduated by degrees. Above the Dial is a ball bearing Turntable, secured to a Spring, which resists the turning of the Auger Bit.

The finger on the Turntable indicates by the degrees on the Dial, the exact measure of the resistance to the Auger Bit entering the wood.

The block of wood used in this illustration is Oregon Fir, set on end, so that the Bit may cut all the fibre at right angles.

To wear out the Auger Bit in wood only, would have been a tedious process, so we

used a hard red fibre board, which is about equal to Oak Knots, and of absolutely uniform density, so that every sample tested should have an equal test.

## RESULTS COUNT

The best Auger Bit, of course, would be that which removed the most wood with the least effort, in the least time, and bored the most holes before it began to churn.

"Churning" means that the Cutting Lip was so dull that it more than resisted the pull of the Feed Screw into the work.

In our Laboratory tests a stop Watch takes the exact time required for boring ten holes through  $\frac{1}{8}$  inch fibre board, then one hole through the Oregon Fir, then ten more in fibre, one in Fir, etc.

The wearing out test of the Bits of seven manufacturers is tabulated below:

Sample Number	No. of Holes Bored	Efficiency Per Cent Based on 100% for Zenith
1	285	100
2	240	84
3	190	67
4	150	53
5	111	39
6	108	38
7	80	28

This table shows what a startling variation there is between Auger Bits. After much investigation and experimentation we produced our present Zenith Bit, and its showing in Test No. 1, proves what remarkable possibilities for improvement there are, even in so common an article.

The major credit for this betterment lies in better Steel and better heat treatment.

## AUGER BITS



No. 101—ZENITH, JENNINGS PATTERN

Extra Crucible Tool Steel, Extension Lip, Double Spur, Flour of Emery Finish; Every Bit Guaranteed against Defects. High Grade Bits for Carpenters and any other Woodworkers.

Size, In. in 16th.....	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	22	24
Diam., In. ....	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	$1$	$1\frac{1}{16}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{4}$
Weight, Oz. ....	1	1	2	2	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	4	4	5	6	7	8	8	10	11	12	13

Each ..... \$0.25 .25 .25 .30 .35 .40 .45 .50 .50 .60 .60 .70 .70 .80 .85 .90

## ZENITH BITS IN SETS

Per Set of 13

Set No. 151—Contains 32½ Quarters, One Each, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16-16 inch Bits ..... \$5.00

One Set in a Common Wood Box with Slide Cover; Weight 3½ Lbs. per Set



No. 301—ZENITH, IRWIN PATTERN

Extra Crucible Tool Steel, Solid Center Stem, Double Spur, Extension Lip, Polished; Special Rustless Gray Finished Twist

Size, In. in 16th.....	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	22	24
Diam., In. ....	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	$1$	$1\frac{1}{16}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{4}$
Weight, Oz. ....	1	1	1	2	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	4	4	5	6	6	8	9	10	11

Each ..... \$0.25 .25 .25 .30 .35 .40 .45 .50 .50 .60 .60 .70 .70 .80 .85 .90

## ZENITH; IRWIN PATTERN BITS, IN SETS

Per Set of 13

Set No. 351—Contains 32½ Quarters, One Each, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16-16 in.... \$5.00

One Set in a Wood Box; Weight 3½ Lbs. per Set



No. 1001—ZENITH ELECTRICIANS' BITS

High Grade Tool Steel, Finely Finished; a very fast-cutting Bit made expressly for Electricians, whose work in dry wood and cramped corners demands an Article of this Character.

Size, Inches in 16ths.....	10	11
Diam., Inches .....	$\frac{5}{16}$	$1\frac{1}{16}$
Weight, Oz. ....	3	4
Each ..... \$0.50		.50



No. 901—FORSTNER AUGER BITS

Bores any Arc of a Circle; especially adapted to Hardwood Working; can be guided in any direction regardless of grain or knots, leaving a true polished surface; it is preferable and faster than a Chisel, Gouge, Scroll Saw or Lathe Tool combined for core boxes, fine and delicate patterns, veneers, screen work, scalloping, fancy scroll, twist column, newels, ribbon moulding and mortising, etc.

Size, Inches in 16ths.....	4	5	6	7	8	9	10	11	12	13	14	15	16
Diam., Inches .....	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$1\frac{1}{16}$	$\frac{3}{4}$	$1\frac{3}{16}$	$\frac{7}{8}$	$1\frac{5}{16}$	$1$
Weight, Oz. ....	1	1	1	2	2	2	2	2	$2\frac{1}{2}$	3	3	3	3

Each ..... \$0.65 .65 .70 .75 .75 .80 .80 .85 .85 .90 1.00 1.05

## FORSTNER AUGER BITS IN SETS

Per Set of 11

Set No. 951—Contains 11 Sizes, One Each of Following,  $\frac{3}{8}$ ,  $\frac{5}{16}$ ,  $\frac{1}{2}$ ,  $\frac{9}{16}$ ,  $\frac{5}{8}$ ,  $1\frac{1}{16}$ ,  $\frac{3}{4}$ ,  $1\frac{3}{16}$ ,  $\frac{7}{8}$ ,  $1\frac{5}{16}$  and 1 inch ..... \$8.75

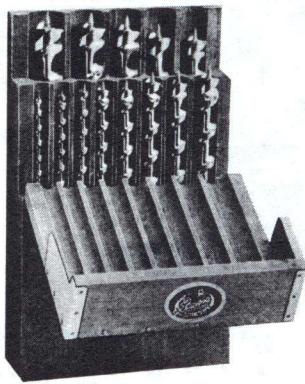
One Set in a Box; Weight 1½ Lbs. per Set

## AUGER BIT SETS

## In Boxes and Rolls

The Box is made from Selected Wood, Size 11x6½x2 in.; Finished in Oil, with Neat Brass Hinges, Catch and Corners; has Thirteen Round Holes into which Bits fit, each hole made for a particular size Bit.

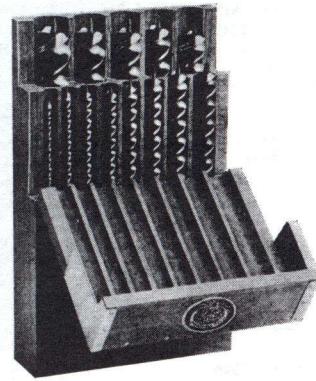
The Rolls are made of Heavy Canvas, Flannel Lined, Leatherette Binding and Strongly Stitched; with Strap and Buckle Fastening; Size of Roll opened 11x20 inches.



Unconditionally



Guaranteed



ZENITH, JENNING'S PATTERN

Bits are Extra Crucible Tool Steel, Solid Center Stem, Double Spur, Extension Lip; Highly Polished Finish; Forged, Not Twisted.

Per Set

Set No. 350—Contains 13 Sizes, One Each, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16-16 in. Bits ..... \$5.00

Weight 5 Lbs. per Set

Set No. 359—Contains 9 Sizes, One Each, 4, 5, 6, 7, 8, 9, 10, 11 and 12-16 in. Bits ..... 3.50

Weight 4 Lbs. per Set

Bits are Best Crucible Tool Steel, Extension Lip, Double Spur, Highly Polished Finish.

Per Set

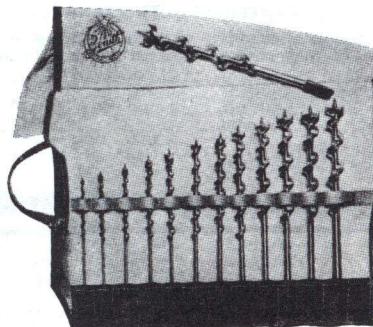
Set No. 150—Contains 13 Sizes, One Each 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16-16 in. Bits ..... \$5.00

Weight 5 Lbs. per Set

Unconditionally



Guaranteed



Unconditionally



Guaranteed

ZENITH, IRWIN PATTERN

Bits are Extra Crucible Tool Steel, Solid Center Stem, Double Spur, Extension Lip, Polished; Forged, not Twisted.

Per Set

No. 325—Contains 13 Sizes, One Each, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16-16 in. Bits ..... \$5.00

Weight 3½ Lbs. per Set

No. 329—Contains 9 Sizes, One Each, 4, 5, 6, 7, 8, 9, 10, 11 and 12-16 in. Bits ..... \$3.25

Weight 2½ Lbs. per Set

ZENITH, JENNINGS PATTERN

Same Pattern as shown in Box Above  
Bits are Best Crucible Tool Steel, Extension Lip, Double Spur, Full Polished Finish; Every Bit Guaranteed against Defects.

Per Set

Set No. 125—Contains 13 Sizes, One Each 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16-16 in. Bits ..... \$5.00

Weight 3½ Lbs. per Set

Set No. 129—Contains 9 Sizes, One Each 4, 5, 6, 7, 8, 9, 10, 11 and 12-16 in. Bits ..... 3.25

Weight 2½ Lbs. per Set

## ZENTH SHIP AUGERS



No. 202—WITH STARTING SCREW



No. 203—WITHOUT SCREW

Used by Bridge, Ship, Dock and Car Builders, Wagon Makers and Wheelwrights; Weld the Auger Shank to a Rod Crank or Brace; Bores either with or across the grain

Extra Tool Steel, Full Polished; 10 in. Twist on Small Sizes, 16 in. on Largest; Shanks 4 to 5 in. Longer

Size, Inches in 8ths.....	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8
Diameter, Inches.....	½	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1
Weight Each, Lbs.....	1/4	1/4	1/3	2/3	1/2	1/2	3/4	1/2	1/2	1/2	1/2	1/2	1/2
Each.....	\$0.65	0.65	0.65	0.65	0.65	0.65	0.75	0.75	0.90	1.00	1.00	1.25	1.25

Size, In. in 8ths.....	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	15½	16
Diameter, In. ....	1 1/16	1 1/8	1 3/16	1 1/4	1 5/16	1 3/8	1 7/16	1 1/2	1 9/16	1 5/8	1 11/16	1 3/4	1 15/16	2
Wt. Each, Lbs. ....	2	2 1/6	2 1/3	2 1/2	2 1/4	3	3	3 1/4	4	4 1/8	4 1/3	4 1/2	5	5 1/4
Each.....	\$1.25	1.25	1.40	1.40	1.50	1.50	1.75	1.75	2.00	2.00	2.75	2.75	3.25	3.25



No. 302—ZENTH SHIP AUGERS, IRWIN PATTERN

Solid Center Stem, Very Rigid; Double Cutter, Solid Tool Steel, Full Polished; 12½ in. Twist on Small Sizes, 16 in. on Largest; Shanks 4 to 5 in. Longer

Size, Inches in 8ths.....	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8
Diameter, Inches.....	½	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1
Weight Each, Lbs.....	1/8	2/9	5	7/8	6	6	7	8	11	12	12	13	16
Each.....	\$0.65	0.65	0.65	0.65	0.65	0.65	0.75	0.75	0.85	1.00	1.00	1.25	1.25

Size, Inches in 8ths.....	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	15½	16
Diameter, Inches .....	1 1/16	1 1/8	1 3/16	1 1/4	1 5/16	1 3/8	1 7/16	1 1/2	1 9/16	1 5/8	1 11/16	1 3/4	1 15/16	2
Weight Each, Lbs. ....	1	1	1 1/4	1	1 1/2	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	2	2
Each.....	\$1.25	1.25	1.40	1.40	1.50	1.40	1.50	1.50	1.50	1.50	1.75	1.75	1.75	1.75

## CAR BITS



No. 204—ZENTH, SHIP AUGER BITS

Has Ship Auger Twist, Designed for Rough Work and Rapid Boring, Especially Adapted to Hardwood, Car Shop and Electrical Work; Solid Tool Steel, Full Polished, 12 in. Twist, 18 in. Over All.

Size, Inches in 16ths.....	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Size, Inches in 8ths.....	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½
Diameter, Inches.....	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1 1/16	1 1/8
Weight Each, Lbs.....	1/4	1/4	1/3	1/2	1/2	2/3	3/4	1	1	1	1 1/8	1 1/3	1 1/2	1 1/4



No. 304—ZENTH, IRWIN PATTERN CAR BITS

Solid Center Stem, Very Rigid; Designed for Fine and Deep Work; Will not choke in Boring Entire Length of Twist; Double Cutter, Solid Tool Steel, Full Polished, 14 in. Twist, Length Over All 18 in.

Size, Inches in 16ths.....	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Diameter, Inches.....	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1 1/16
Weight Each, Lbs.....	3	4	5	5	7	7	9	9	9	10	12	13	15	16
Each.....	\$0.50	.50	.50	.60	.65	.75	.80	.85	.90	1.00	1.10	1.15	1.25	1.35

## MACHINE BITS



No. 1301S—SHELL PATTERN MACHINE BITS

Made from the Highest Quality Tool Steel and Nicely Finished; Shanks are  $2\frac{1}{4}$  in. Long and  $\frac{1}{2}$  in. in Diameter; for use in all kinds of Boring Machines

## 6 IN. TWIST

Size, Inches in 16ths.....	8	10	12	14	16	18	20	22	24	28	32
Diameter, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs., 6 in. Twist.....	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{1}{2}$
Each.....	\$0.70	.85	1.00	1.15	1.25	1.45	1.60	1.75	1.90	2.25	2.65

## 12 IN. TWIST

Size, Inches in 16ths.....	8	10	12	14	16	18	20	22	24	28	32
Diameter, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs., 12 in. Twist.....	$\frac{6}{6}$	$\frac{7}{8}$	.9	$10\frac{1}{2}$	12	14	$15\frac{1}{2}$	17	$18\frac{1}{2}$	$21\frac{1}{2}$	25
Each.....	\$1.10	1.35	1.65	1.80	2.10	2.25	2.45	2.75	3.00	3.60	4.20

## 18 IN. TWIST

Size, Inches in 16ths.....	8	10	12	14	16	18	20	22	24	28	32
Diameter, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs., 18 in. Twist.....	$\frac{4}{4}$	1	1	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	2	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Each.....	\$1.50	1.85	2.25	2.50	2.80	3.15	3.45	3.80	4.15	4.95	5.75



No. 1301J—JENNINGS PATTERN MACHINE BITS

Made from the Highest Quality Tool Steel and Nicely Finished; Shanks are  $2\frac{1}{4}$  in. Long and  $\frac{1}{2}$  in. in Diameter; for use in all kinds of Boring Machines

## 6 IN. TWIST

Size, Inches in 16ths.....	8	10	12	14	16	18	20	22	24	28	32
Diameter, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs., 6 in. Twist.....	$\frac{4}{4}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{1}{2}$
Each.....	\$0.70	.85	1.00	1.15	1.25	1.45	1.60	1.75	1.90	2.25	2.65

## 12 IN. TWIST

Size, Inches in 16ths.....	8	10	12	14	16	18	20	22	24	28	32
Diameter, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs., 12 in. Twist.....	$\frac{6}{6}$	$\frac{7}{8}$	.9	$10\frac{1}{2}$	12	14	$15\frac{1}{2}$	17	$18\frac{1}{2}$	$21\frac{1}{2}$	25
Each.....	\$1.10	1.35	1.65	1.80	2.10	2.25	2.45	2.75	3.00	3.60	4.20

## 18 IN. TWIST

Size, Inches in 16ths.....	8	10	12	14	16	18	20	22	24	28	32
Diameter, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs., 18 in. Twist.....	$\frac{4}{4}$	1	1	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	2	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Each.....	\$1.50	1.85	2.25	2.50	2.80	3.15	3.45	3.80	4.15	4.95	5.75



No. 1401—BORING MACHINE AUGERS

Solid Tool Steel, Polished,  $\frac{1}{2}$  in. Shank, 7 in. Twist,  $10\frac{1}{2}$  in. Long Over-all

Size, Inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{6}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2$
Weight Each, Lbs.....	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{5}{6}$	$\frac{5}{6}$	1	$1\frac{1}{2}$
Each.....	\$0.65	.65	.70	.85	.95	1.15	1.25	1.35	1.50	1.75	2.00

## BORING MACHINE AUGERS IN SETS

Set No. 1451—18 Quarters, 1 Each, 1,  $1\frac{1}{2}$  and 2 in., Weight  $3\frac{1}{2}$  Lbs. per Set..... \$4.50  
One Set in a Box

## EXPANSIVE AUGER BITS



## ZENITH, CLARK PATTERN

Extra Tool Steel, Full Polished, Accurately Tempered; Adjusted by One Screw; Cutter is Beveled on Upper Edge to Hold it Perfectly Rigid and Prevent Slipping or Creeping. Each No. 1—Small Size; Cuts  $\frac{1}{4}$  to  $1\frac{1}{2}$  in.; Length 7 in.; Complete with Two Cutters, Size Nos. 1 and 2. Weight  $\frac{1}{2}$  Lb. Each

No. 2—Large Size; Cuts  $\frac{3}{8}$  to 3 in.; Length 10 in.; Complete with Two Cutters, Size Nos. 3 and 4; Cutter Size No. 5 can also be used in this Bit. Weight  $\frac{3}{8}$  Lb. Each



## EXTRA CUTTERS FOR ZENITH EXPANSIVE BITS

Size Nos.	1	2	3	4	5
Cuts, In.	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{3}{8}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$1\frac{1}{4}$ to 3

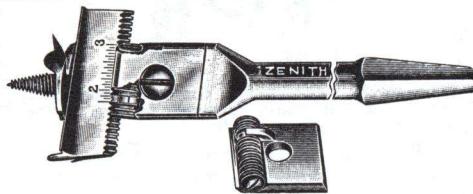
Each  $\$0.15$

.20

.25

.25

.45



## ZENITH SPECIAL

Tool Steel, Full Polished, Accurately Tempered, Micrometer Screw Adjustment; Screw is held to Top Plate and cannot become lost; Cutter is Notched on Upper Edge to Prevent Slipping or Creeping. Each

No. 10—Small Size, Cuts  $\frac{3}{8}$  to  $1\frac{1}{2}$  in.; Length 8 in.; Complete with Two Cutters, Size 1 and 2. Weight  $\frac{1}{2}$  Lb. Each

No. 20—Large Size, Cuts  $\frac{3}{8}$  to 3 in.; Length 9 in.; Complete with Two Cutters, Size Nos. 3 and 4; Cutter Size No. 5 can also be used in this Bit. Weight  $\frac{3}{8}$  Lb. Each



## EXTRA CUTTERS FOR ZENITH SPECIAL EXPANSIVE BITS

Size Nos.	1	2	3	4	5
Cuts, In.	$\frac{3}{8}$ to $1\frac{1}{2}$	$1\frac{1}{2}$ to $1\frac{1}{4}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$1\frac{1}{4}$ to 3	3 to 4

Each  $\$0.30$

.40

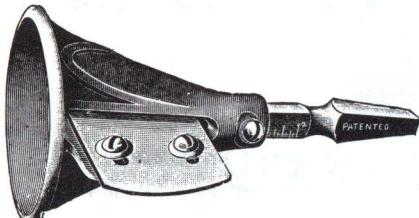
.50

.60

1.00

## SPOKE POINTERS

To Start the Tenon for Use of Hollow Auger

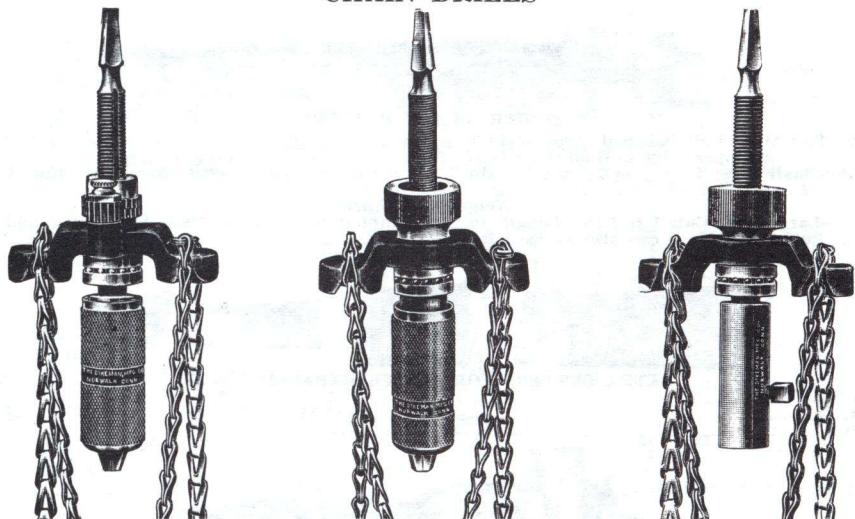


Each

No. 11—Cast Iron Body, Japanned, Cast Steel Knife, Graduated Adjustable Shank; will Trim Spokes up to  $1\frac{1}{2}$  in. Weight  $\frac{3}{8}$  Lb. Each

$\$0.75$

## CHAIN DRILLS



The Feed Mechanism is under Perfect Control; the operation is easy; a Ball Bearing Cylinder revolves freely in the Yoke and is internally threaded to engage the Threads on the Spindle; Nickel Plated Chuck; Japanned Frame; Steel Chain.

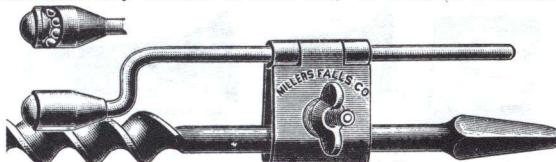
Each  
No. 17—**A u t o m a t i c F e e d**,  
Fitted with **T w o J a w e d C h u c k** for holding Drills with Taper or Bit Stock Shanks; has **P a r a l l e l O p e n i n g J a w s** to allow use of Small Round Shank Drills ..... \$3.50  
Weight 3 Lbs. Each

Each  
No. 18—Fitted with **T w o J a w e d C h u c k**, having **P a r a l l e l O p e n i n g J a w s** to hold Taper Shank Drills ..... \$2.00  
Weight 3 Lbs. Each

Each  
No. 16—Fitted with **S q u a r e T a p e r H o l e C h u c k** to hold Drills with Bit Stock Shank ..... \$1.25  
Weight 2½ Lbs. Each

## ADJUSTABLE BIT GAUGES

With these Tools any number of holes may be bored to a Uniform Depth



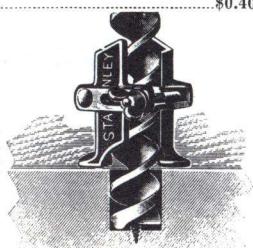
Shows Gauge Fastened to Bit

Each  
No. 2—**N i c k e l P l a t e d**; the Stop is fitted with a large **A n t i - F r i c t i o n B a l l** in the end of the Socket, this Ball in turn runs on six smaller Balls, reducing the Friction to a Minimum; this Ball prevents defacing delicate or polished material when operating; can be Attached to Any Sized Bit ..... \$0.40

## ADJUSTABLE

Can be attached to any size Bit up to 1 in. Diameter; by loosening the Thumb Screws the Shank of the Bit can be inserted in the Gauge, and the Twist of the Bit bores to the required Depth.

Each  
No. 49—**N i c k e l P l a t e d**; Length 2½ in. ..... \$0.50  
Weight 5 Oz. Each



Shows Gauge Fastened to Bit

## ZENITH GIMLET BITS



No. 80—GERMAN PATTERN, Straw Color

Used by Carpenters, Carriage Builders, Blacksmiths, etc.

Size, In. in 32nds.....	2	3	4	5	6	7	8	9	10	11	12
Weight Dozen, Lbs.....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
Each .....	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15



No. 90—DOUBLE CUT, Polished

Used by Blacksmiths, where a Heavy Point is required

Size Nos. ....	1	2	3	4	5	6
Diameter, In. ....	5/32	6/32	7/32	8/32	9/32	10/32
Weight Dozen, Lbs. ....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
Each .....	.15	.15	.15	.15	.15	.15

## ZENITH GIMLET BITS IN SETS

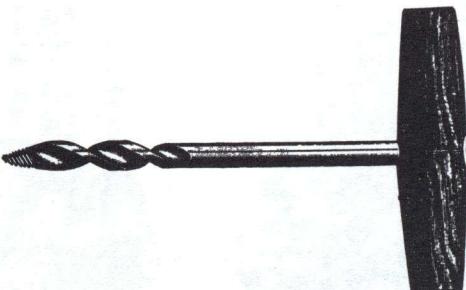
## German Pattern

## Per Set

Set No. 88—Contains 12 Bits, Assorted, 2 to 10 in 32nds Inches.....	\$1.25
Double Cut	

Set No. 99—Contains 12 Bits, Assorted Sizes 1 to 6.....	1.40
One Set in a Box; Weight $\frac{1}{4}$ Lb. per Set	

## GIMLETS



ZENITH

Cocobolo Head, Double Cut; Assorted, Size Nos. 1, 2, 3 and 4 in 16ths

Sizes .....	1	2	3	4
Diameter, In. ....	1/16	2/16	3/16	4/16
Each .....	.15	.15	.15	.15

Average Weight  $\frac{1}{4}$  to  $\frac{1}{2}$  Lb. Each

## TWIST DRILLS IN SETS



Drill Racks are about 30 inches in Length, made of Seasoned Oak and Highly Finished  
Racks Furnished Free with the following Sets:

No. 112— $\frac{1}{4}$  INCH ROUND SHANK

	Per Set
Set No. 112—Mounted, One each Sizes $\frac{1}{8}$ , $\frac{5}{32}$ , $\frac{3}{16}$ , $\frac{7}{32}$ , $\frac{1}{4}$ , $\frac{9}{32}$ , $\frac{5}{16}$ , $\frac{11}{32}$ , $\frac{3}{8}$ , $\frac{13}{32}$ , $\frac{7}{16}$ , $\frac{15}{32}$ , $\frac{1}{2}$ , $\frac{17}{32}$ , $\frac{9}{16}$ , $\frac{19}{32}$ , $\frac{5}{8}$ , $\frac{21}{32}$ , $\frac{11}{16}$ , $\frac{23}{32}$ , $\frac{3}{4}$ , $\frac{25}{32}$ , $\frac{13}{16}$ , $\frac{27}{32}$ , $\frac{7}{8}$ , $\frac{29}{32}$ , $\frac{15}{16}$ , 1	\$13.50
Set No. 110—Mounted, One each Sizes $\frac{1}{8}$ , $\frac{5}{32}$ , $\frac{3}{16}$ , $\frac{7}{32}$ , $\frac{1}{4}$ , $\frac{9}{32}$ , $\frac{5}{16}$ , $\frac{11}{32}$ , $\frac{3}{8}$ , $\frac{13}{32}$ , $\frac{7}{16}$ , $\frac{15}{32}$ , $\frac{1}{2}$ , $\frac{17}{32}$ , $\frac{9}{16}$ , $\frac{19}{32}$ , $\frac{5}{8}$ , $\frac{21}{32}$ , $\frac{11}{16}$ , $\frac{23}{32}$ , $\frac{3}{4}$ , $\frac{25}{32}$ , $\frac{13}{16}$ , $\frac{27}{32}$ , $\frac{7}{8}$ , $\frac{29}{32}$ , $\frac{15}{16}$ , 1	14.50

No. 110— $\frac{8}{32}$  or  $\frac{41}{64}$  INCH ROUND SHANK

Per Set



## MARSWELLS BIT STOCK

Per Set

Set No. 13—For Wood or Metal, Contains 9 Sizes, One Each of $\frac{1}{16}$ , $\frac{3}{32}$ , $\frac{1}{8}$ , $\frac{5}{32}$ , $\frac{3}{16}$ , $\frac{7}{32}$ , $\frac{1}{4}$ , $\frac{9}{32}$ , $\frac{5}{16}$ , $\frac{7}{32}$ , $\frac{1}{2}$ , $\frac{17}{32}$ , $\frac{9}{16}$ , $\frac{19}{32}$ , $\frac{5}{8}$ , $\frac{21}{32}$ , $\frac{11}{16}$ , $\frac{23}{32}$ , $\frac{3}{4}$ , $\frac{25}{32}$ , $\frac{13}{16}$ , $\frac{27}{32}$ , $\frac{7}{8}$ , $\frac{29}{32}$ , $\frac{15}{16}$ , 1	\$1.50
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One Set in Polished Wood Box  
Weight  $\frac{7}{8}$  Lb. per Set

Per Set

Set No. 14A—For Wood or Metal; Contains 7 Sizes; One Each $\frac{1}{16}$ , $\frac{3}{32}$ , $\frac{1}{8}$ , $\frac{5}{32}$ , $\frac{3}{16}$ , $\frac{7}{32}$ , $\frac{1}{4}$ , $\frac{9}{32}$ and $\frac{5}{16}$ in.; Size of Case $7\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{3}{16}$ in. Thick	\$1.50
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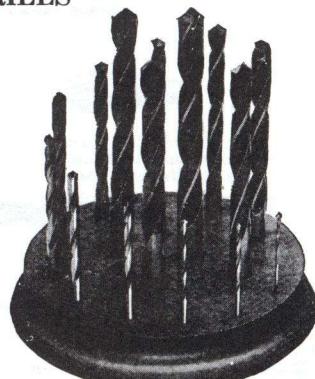
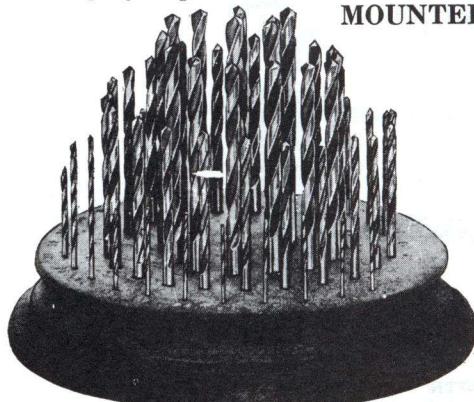
MARSWELLS WOOD BORING

Per Set

Set No. BB—For Wood Only; Contains 7 Sizes; One Each of $\frac{1}{16}$ , $\frac{3}{32}$ , $\frac{1}{8}$ , $\frac{5}{32}$ , $\frac{3}{16}$ , $\frac{7}{32}$ , $\frac{1}{4}$ , $\frac{9}{32}$ and $\frac{5}{16}$ in.; Size of Case $8\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{3}{16}$ in.	\$1.50
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One Set in a Neat, Green Color, Leatherette Case with Sizes and  
Names in Gold; Weight  $\frac{3}{4}$  Lb. Each

## MOUNTED DRILLS



A Set of these Drills gives a Complete Equipment of Drills at Minimum Expense; they are just the thing for Manual Training Schools, Automobile Repairing or for any Repair Shop

## WIRE GAUGE DRILLS

Per Set

No. 9—60 Wire Drills; Gauges No. 1 to No. 60.	\$4.50
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## JOBBERS STRAIGHT SHANK DRILLS

Per Set

No. 6—29 Drills; Sizes $\frac{1}{16}$ to $\frac{1}{2}$ in. by 64ths.	\$5.00
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Weight  $1\frac{1}{2}$  Lbs. per Set

Weight  $2\frac{1}{2}$  Lbs. per Set

## TWIST DRILLS

=MARSWELLS=

For use in Common Bit Braces, Breast Drills, Chain Drills, Etc.  
Used for Light Work such as Drilling Holes for Screws, Nails, Brads, Etc.

All Marswells Drills are Extra Finished



No. 109—MARSWELLS BIT STOCK DRILLS

For Wood or Metal

For Bit Braces, Breast Drills, Blacksmiths' Horizontal Drills, 8 in. Whitney Ratchet, Universal Chain Drills, Large Lightning Screw Drivers; Used by Blacksmiths, Carriage Makers, Etc.; Will not Split the Wood.

Diam. In. in 32nds	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Length, In.	2 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4 $\frac{1}{2}$	4 $\frac{9}{16}$	4 $\frac{5}{8}$	5 $\frac{3}{16}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	6 $\frac{1}{2}$
Weight Each, Oz.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	1	1	1	1	1	2
Each	\$0.10	.10	.10	.10	.15	.15	.15	.20	.20	.25	.30	.30	.35	.40

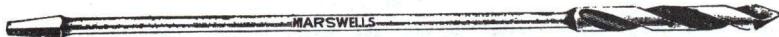
Diam. In. in 32nd	15	16	17	18	19	20	21	22	23	24	25	26	28	29	32
Length, In.	6 $\frac{1}{2}$	7	7 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8	8	8	8	8	8	8	8	8	8
Weight Each, Oz.	3	3 $\frac{1}{2}$	4	4	5	5	5	5 $\frac{1}{2}$	7	8	8	8 $\frac{1}{2}$	10	12	13
Each	\$0.40	.45	.50	.60	.65	.70	.75	.75	.80	.85	.90	.90	.95	1.00	1.25



No. 208—MARSWELLS WOOD BORING BRACE DRILLS, Extra Finish

Syracuse Pattern, Short Length; For Bit Braces, Breast Drills, Blacksmiths' Horizontal Drills, 8 in. Whitney Ratchet, Universal Chain Drill, Large Lightning Screw Driver, Etc. Used by Blacksmith, Carpenter, Carriage Maker, Etc.

Diam. In.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20
In 32nds	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20
Length, In.	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	7 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	9	9 $\frac{1}{2}$	10
Wt. Each, Oz.	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	4	5	6		



No. 209—MARSWELLS EXTRA LONG WOOD BORING DRILLS, Extra Finish

For Bell Hangers, Telephone and Telegraph Work; Will go through Plastering, Nails, Brick Walls, Etc. Can be Sharpened, when dull

Size, In.	1/4x18	1/4x24	5/16x18	5/16x24	3/8x18	3/8x24	1/2x18	1/2x24
Length, In.	18	24	18	24	18	24	18	24
Weight Each, Oz.	4	7	4 $\frac{1}{2}$	7	5	8	10	13
Each	\$0.60	.75	.65	.80	.65	.90	.90	1.00

## TWIST DRILLS

→MARSWELLS→

→MARSWELLS→

For Hand or Power Use; for Boring Metals; one Side of Shank is Flat so that the Set Screw of the Drill Press will hold firmly, preventing slipping and injury; Used by Blacksmiths, Carriage and Wagon Makers, Machine Shops, Etc.



No. 112—MARSWELLS, Extra Finish

1/4 in. Round Shank

This is the Standard for Hand Power Upright Drills

Shanks 1/4 in. Diameter, 2 1/2 in. Long; Sizes 1/16 in., 4 1/2 in., 5 1/2 in., 5 1/16 in., 5 1/4 in., 7 1/2 in., 5 1/8 in.; Balance 6 in. long over all

Diam., In.	1	5/32	3/16	7/32	1	9/32	5/16	11 1/32	8	13 1/32	7/16	15 1/32	1	17 1/32	9/16	19 1/32
Wt. Oz.	1	1	1	2	2	2	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	4	4	4 1/2
Each	\$0.25	.25	.30	.30	.35	.35	.40	.40	.40	.45	.50	.55	.55	.55	.55	.55
Diam., In.	5/32	21/32	11 1/16	23/32	5	25/32	13 1/16	27/32	7	29/32	15 1/16	31/32	10	15 1/16	31/32	10
Wt. Oz.	5	5	6	6	6	6	6	7	8	8	8	8	8	10	10	10
Each	\$0.60	.65	.65	.70	.70	.75	.75	.80	.80	.85	.90	.90	.90	1.00	1.00	1.00
Diam., In.	1	1 1/32	1 1/16	1 1/8	1 1/16	1 1/8	1 1/16	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
Weight Oz.	8	8	8	10	10	10	10	13	13	14	15	16	16	16	18	18
Each	\$1.10	1.15	1.20	1.20	1.25	1.25	1.25	1.35	1.35	1.40	1.50	1.60	1.60	1.60	1.80	1.80



No. 110—MARSWELLS, Extra Finish

4 1/64 or 5/8 in. Round Shank

This is the Standard for Blacksmiths' Power Drills and Heavy Hand Work

Shanks 4 1/64 in. Diameter, 2 1/4 in. long, Sizes 1/16 in. long; 5/32 in., 5 1/8 in., 5 1/16 in., 5 1/4 in., 7 1/2 in., Balance 6 in. long over all

Diam., In.	1	5/64	3/16	7/32	1	9/32	5/16	11 1/32	8	13 1/32	7/16	15 1/32	1	17 1/32	9/16	19 1/32	
Wt. Oz.	3	3	3	4	4	4	4	5	5	5	5	5	6	6	7	8	
Each	\$0.30	.35	.35	.35	.40	.40	.40	.45	.50	.50	.55	.55	.55	.60	.60	.75	
Diam., In.	3	23/32	13 1/16	27/32	7	29/32	15 1/16	1	1 1/32	11 1/16	1 1/8	1 1/32	13 1/16	14	19 1/2	15 1/16	23 1/32
Wt. Oz.	10	10	10	10	10	10	11	12	13	13	13	14	15	16	16	18	
Each	\$0.75	.80	.80	.85	.90	.95	1.00	1.10	1.15	1.20	1.30	1.35	1.40	1.40	1.50	1.60	



No. 107—MARSWELLS, Extra Finish

Stubs' Steel Wire Gauge Sizes, Straight Shank; for boring metals. Used in Drill Chucks, Bit Braces, Yankee No. 50 Drill, Etc.

The use of Drill Chucks with these Straight Shank Drills under 1/4 inch saves the difference in cost between these and the 1/4, 5/8, or Taper Shank Bits.

Nos. of Gauges	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25
Length, In.	4 to 3 1/16	3 1/16 to 3 1/2	3 1/16 to 3 1/16	3 1/2 to 3 3/16	3 3/16 to 3
Each	\$0.10	.10	.10	.08	.08
Nos. of Gauges	26 to 30	31 to 35	36 to 40	41 to 45	46 to 60
Length, In.	21 5/16 to 21 3/16	2 1/2 to 2 1/16	2 1/16 to 2 1/8	2 5/16 to 2 3/16	2 1/8 to 1 1/16
Each	\$0.07	.06	.05	.05	.05

Weight 4 Oz. per Dozen for Largest Sizes

## TWIST DRILLS

&gt;MARSWELLS&gt;

&gt;MARSWELLS&gt;



## JOBBERS AND MACHINISTS' STRAIGHT SHANK

## No. 105—MARSWELLS, Extra Finish

For boring metals. Used in Drill Chucks, Bit Braces, Yankee No. 50 Drill, Etc.

Diam., In.	3 $\frac{1}{6}$	1 $\frac{1}{16}$	5 $\frac{6}{16}$	3 $\frac{3}{16}$	7 $\frac{6}{16}$	1 $\frac{1}{8}$	9 $\frac{6}{16}$	5 $\frac{5}{16}$	11 $\frac{6}{16}$	3 $\frac{1}{16}$	13 $\frac{6}{16}$	7 $\frac{5}{16}$	15 $\frac{6}{16}$	1 $\frac{1}{16}$	17 $\frac{6}{16}$
Length, Inches	1 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{5}{8}$	2 $\frac{3}{4}$	2 $\frac{5}{8}$	3	3 $\frac{5}{8}$	3 $\frac{1}{4}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{5}{8}$	3 $\frac{3}{4}$	3 $\frac{5}{8}$	4	4 $\frac{1}{8}$
Each	\$0.05	.05	.05	.06	.06	.07	.08	.08	.09	.10	.11	.11	.13	.14	.15

Diam., in.	9 $\frac{1}{2}$	19 $\frac{1}{2}$	5 $\frac{1}{16}$	21 $\frac{1}{2}$	11 $\frac{1}{16}$	23 $\frac{3}{16}$	3 $\frac{1}{8}$	25 $\frac{1}{2}$	13 $\frac{1}{16}$	27 $\frac{1}{2}$	7 $\frac{1}{16}$	29 $\frac{1}{2}$	15 $\frac{1}{16}$	31 $\frac{1}{2}$	1 $\frac{1}{16}$
Length, Inches	4 $\frac{1}{4}$	4 $\frac{3}{8}$	4 $\frac{1}{4}$	4 $\frac{3}{8}$	4 $\frac{1}{4}$	4 $\frac{3}{8}$	5	5 $\frac{1}{8}$	5 $\frac{1}{4}$	5 $\frac{3}{8}$	5 $\frac{1}{2}$	5 $\frac{3}{8}$	5 $\frac{1}{4}$	5 $\frac{3}{8}$	6
Each	\$0.15	.20	.20	.20	.20	.20	.25	.25	.25	.30	.30	.30	.35	.35	.35

The Largest Sizes of above Drills weigh 3 Oz. Each



## STRAIGHT SHANK

## No. 104—MARSWELLS, Extra Finish

Diam., In. ..	17 $\frac{1}{32}$	9 $\frac{1}{16}$	19 $\frac{1}{32}$	5 $\frac{1}{8}$	21 $\frac{1}{2}$	11 $\frac{1}{16}$	23 $\frac{3}{16}$	3 $\frac{1}{8}$	25 $\frac{1}{2}$	13 $\frac{1}{16}$	27 $\frac{1}{2}$	7 $\frac{1}{8}$	29 $\frac{1}{2}$	15 $\frac{1}{16}$	31 $\frac{1}{32}$	1
Length, In...	8	8 $\frac{1}{4}$	8 $\frac{1}{2}$	8 $\frac{3}{4}$	8 $\frac{1}{2}$	9	9 $\frac{1}{4}$	9 $\frac{1}{2}$	9 $\frac{3}{4}$	10	10 $\frac{1}{4}$	10 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{1}{4}$	10 $\frac{3}{8}$	
Wt., Oz. ....	5	5 $\frac{1}{4}$	7	8	10	10	11	13	13	15	17	18	20	23	24	
Each	\$0.55	.60	.65	.70	.75	.80	.85	.90	1.00	1.10	1.15	1.25	1.30	1.40	1.45	



## HIGH SPEED JOBBERS' AND MACHINISTS' STRAIGHT SHANK

## No. 105H—MARSWELLS HIGH SPEED, Extra Finish

Diam., In. ....	3 $\frac{1}{6}$	1 $\frac{1}{16}$	5 $\frac{6}{16}$	3 $\frac{3}{16}$	7 $\frac{6}{16}$	1 $\frac{1}{8}$	9 $\frac{6}{16}$	5 $\frac{5}{16}$	11 $\frac{6}{16}$	3 $\frac{1}{16}$	13 $\frac{6}{16}$	7 $\frac{5}{16}$	15 $\frac{6}{16}$	1 $\frac{1}{16}$	17 $\frac{6}{16}$
Length, Inches	1 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{5}{8}$	2 $\frac{3}{4}$	2 $\frac{5}{8}$	3	3 $\frac{5}{8}$	3 $\frac{1}{4}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{5}{8}$	3 $\frac{3}{4}$	3 $\frac{5}{8}$	4	4 $\frac{1}{8}$
Weight, Oz. ....	1	1	1	2	2	2	3	3	3	4	5	6	7	8	
Each	\$0.25	.35	.35	.35	.35	.25	.35	.35	.35	.35	.40	.40	.40	.40	.50

Diam., In. ....	9 $\frac{1}{2}$	19 $\frac{1}{2}$	5 $\frac{1}{16}$	21 $\frac{1}{2}$	11 $\frac{1}{16}$	23 $\frac{3}{16}$	3 $\frac{1}{8}$	25 $\frac{1}{2}$	13 $\frac{1}{16}$	27 $\frac{1}{2}$	7 $\frac{1}{16}$	29 $\frac{1}{2}$	15 $\frac{1}{16}$	31 $\frac{1}{2}$	1 $\frac{1}{16}$
Length, In.	4 $\frac{1}{4}$	4 $\frac{3}{8}$	4 $\frac{1}{4}$	4 $\frac{3}{8}$	4 $\frac{1}{4}$	4 $\frac{3}{8}$	5	5 $\frac{1}{8}$	5 $\frac{1}{4}$	5 $\frac{3}{8}$	5 $\frac{1}{2}$	5 $\frac{3}{8}$	5 $\frac{1}{4}$	5 $\frac{3}{8}$	6
Weight, Oz. ....	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8	1 $\frac{1}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{2}$	2	2 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{8}$
Each	\$0.50	.60	.60	.65	.65	.75	.75	.80	.80	.90	.90	1.00	1.00	1.10	1.10

Diam., In. ....	17 $\frac{1}{32}$	9 $\frac{1}{16}$	19 $\frac{1}{32}$	5 $\frac{1}{8}$	21 $\frac{1}{2}$	11 $\frac{1}{16}$	23 $\frac{3}{16}$	3 $\frac{1}{8}$	25 $\frac{1}{2}$	13 $\frac{1}{16}$	27 $\frac{1}{2}$	7 $\frac{1}{8}$	29 $\frac{1}{2}$	15 $\frac{1}{16}$	31 $\frac{1}{32}$	1
Length, In.	8	8 $\frac{1}{4}$	8 $\frac{1}{2}$	8 $\frac{3}{4}$	8 $\frac{1}{2}$	9	9 $\frac{1}{4}$	9 $\frac{1}{2}$	9 $\frac{3}{4}$	10	10 $\frac{1}{4}$	10 $\frac{1}{2}$	10 $\frac{3}{4}$	10 $\frac{1}{4}$	10 $\frac{3}{8}$	
Wt. Oz. ....	5	5 $\frac{1}{4}$	7	8	9	10	11	13	13	15	17	18	20	23	24	
Each	\$1.35	1.50	1.60	1.65	1.85	2.00	2.10	2.15	2.50	2.65	2.90	3.15	3.35	3.45	3.90	4.10

## TWIST DRILLS

=MARSWELLS=

=MARSWELLS=



## TAPER SHANK

## No. 102—MARSWELLS, Extra Finish

For boring Metal; Used in Drill Spindle or with a Socket or Sleeve. Used in Machine and Manufacturing Establishments, Etc.

With Size 1 Morse Taper Shank,  $\frac{1}{2}$  in. at Large End

Diam., In.	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{13}{32}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{1}{2}$	$\frac{17}{32}$	$\frac{9}{16}$
Length, In.	$\frac{4}{2}$	$5\frac{1}{8}$	$5\frac{1}{8}$	$5\frac{1}{8}$	$6$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$7$	$7\frac{1}{4}$	$7\frac{1}{4}$	$8$	$8\frac{1}{4}$
Weight, Oz.	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	5
Each	\$0.20	.20	.20	.25	.25	.30	.35	.35	.35	.40	.45	.45	.45	.50	.55	.60

With Size 2 Morse Taper Shank,  $\frac{3}{8}$  in. at Large End

Diam., In.	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{21}{32}$	$\frac{11}{16}$	$\frac{23}{32}$	$\frac{3}{4}$	$\frac{25}{32}$	$\frac{13}{16}$	$\frac{27}{32}$	$\frac{7}{8}$	$\frac{27}{32}$	$\frac{1}{2}$	$\frac{29}{32}$	$\frac{7}{8}$	$\frac{29}{32}$
Length, In.	$\frac{8}{2}$	$8\frac{1}{4}$	$9$	$9\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{1}{4}$	$10$	$10$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$
Weight, Oz.	8	9	10	10	12	12	13	13	13	13	16	16	16	16	16
Each	\$0.65	.70	.75	.80	.85	.90	1.00	1.10	1.15	1.25	1.25	1.25	1.25	1.25	1.30

With Size 3 Morse Taper Shank,  $\frac{3}{8}$  in. at Large End

Diam., In.	$\frac{15}{16}$	$\frac{31}{32}$	$\frac{1}{2}$	$\frac{11}{32}$	$\frac{11}{16}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{15}{32}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{17}{32}$	$\frac{1}{2}$	$\frac{17}{32}$	$\frac{1}{2}$	$\frac{17}{32}$
Length, In.	$10\frac{1}{2}$	$10\frac{1}{2}$	11	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$12$	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$
Weight, Lbs.	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$
Each	\$1.40	1.45	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.25	2.25	2.25	2.25	2.25

With Size 4 Morse Taper Shank,  $\frac{1}{2}$  in. at Large End

Diam., In.	$\frac{19}{32}$	$\frac{15}{16}$	$\frac{11}{16}$	$\frac{21}{32}$	$\frac{1}{2}$	$\frac{11}{32}$	$\frac{17}{16}$	$\frac{11}{32}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{19}{32}$	$\frac{1}{2}$	$\frac{11}{32}$	$\frac{1}{2}$	$\frac{11}{32}$	
Length, In.	$14\frac{1}{2}$	$15$	$15\frac{1}{2}$	$15\frac{1}{2}$	$16$	$16\frac{1}{2}$	$16\frac{1}{2}$	$16\frac{1}{2}$								
Weight, Lbs.	3	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$4$	$4\frac{1}{2}$	5	$5\frac{1}{2}$	$5\frac{1}{2}$	$6$	$6\frac{1}{2}$
Each	\$2.35	2.40	2.50	2.60	2.70	2.80	2.90	3.00	3.30	3.60	3.80	4.20	4.40	4.60	4.75	4.90



## TAPER SHANK, HIGH SPEED

High Speed Drills enable the user to speed up his Machines and get out more work in less time, at a speed and feed that would burn up the regular carbon drill

To obtain the best speeds and feeds for High Speed Drills, start a periphery speed of about 55 feet per minute of from .005 to .010 inch per revolution, for drills larger than  $\frac{1}{2}$  inch. A maximum speed and feed for the material drilled can be then obtained by observing the following: If the drill wears away on the outside edge the speed is too great; if it chips on the cutting edge the feed is too coarse.

For steel or wrought iron use an abundant supply of good lard oil or cutting compound. For cast iron, an air blast or stream of water gives the best results.

See that the work is properly secured to the table of the machine and have a support directly under the part to be drilled to avoid any spring from the pressure of the drill, and prevent the drill from "pulling ahead" when breaking through the work.

## No. 102H—MARSWELLS, HIGH SPEED, Extra Finish

With Size 1 Morse Taper Shank,  $\frac{1}{2}$  in. at Large End

Diam., In.	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{13}{32}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{1}{2}$	$\frac{17}{32}$	$\frac{9}{16}$
Length, In.	$\frac{4}{2}$	$5\frac{1}{8}$	$5\frac{1}{8}$	$5\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$6\frac{1}{8}$	$7$	$7\frac{1}{4}$	$7\frac{1}{4}$	$8$	$8\frac{1}{4}$
Wt., Oz.	$\frac{1}{2}$	$\frac{1}{2}$	1	1	2	2	2	2	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	3	4	4	4	5
Each	\$0.60	.60	.60	.60	.65	.70	.80	.85	.95	1.00	1.10	1.15	1.25	1.35	1.45	1.50

With Size 2 Morse Taper Shank,  $\frac{3}{8}$  in. at Large End

Diam., In.	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{21}{32}$	$\frac{11}{16}$	$\frac{23}{32}$	$\frac{3}{4}$	$\frac{25}{32}$	$\frac{13}{16}$	$\frac{27}{32}$	$\frac{7}{8}$	$\frac{27}{32}$	$\frac{1}{2}$	$\frac{29}{32}$	$\frac{7}{8}$	$\frac{29}{32}$
Length, In.	$8\frac{1}{2}$	$8\frac{3}{4}$	9	$9\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{1}{4}$	$10$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$	$10\frac{1}{4}$
Wt., Oz.	5	9	9	9	9	12	12	12	13	14	16	16	16	16	16
Each	\$1.60	1.65	1.85	2.00	2.20	2.35	2.50	2.75	2.95	3.15	3.35	3.35	3.35	3.35	3.35

With Size 3 Morse Taper Shank,  $\frac{3}{8}$  in. at Large End

Diam., In.	$\frac{15}{16}$	$\frac{31}{32}$	$\frac{1}{2}$	$\frac{11}{32}$	$\frac{11}{16}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{15}{32}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{17}{32}$	$\frac{1}{2}$	$\frac{17}{32}$	$\frac{1}{2}$	$\frac{17}{32}$
Length, In.	$10\frac{1}{2}$	$10\frac{1}{2}$	11	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$11\frac{1}{8}$	$12$	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$
Wt., Oz.	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$2$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$
Each	\$3.45	3.90	4.10	4.50	4.90	5.20	5.90	6.20	6.35	6.65	7.25	7.25	7.25	7.25	7.25

With Size 4 Morse Taper Shank,  $\frac{1}{2}$  in. at Large End

Diam., In.	$\frac{19}{32}$	$\frac{15}{16}$	$\frac{11}{16}$	$\frac{13}{32}$	$\frac{17}{16}$	$\frac{11}{32}$	$\frac{1}{2}$	$\frac{19}{32}$	$\frac{15}{16}$	$\frac{1}{2}$	$\frac{11}{32}$	$\frac{1}{2}$	$\frac{15}{16}$	$\frac{1}{2}$	$\frac{15}{16}$	
Length, In.	$14\frac{1}{2}$	$15$	$15\frac{1}{2}$	$15\frac{1}{2}$	$16$	$16\frac{1}{2}$	$16\frac{1}{2}$									
Wt., Oz.	3	$3\frac{1}{8}$	$4$	$4\frac{1}{2}$	5	$5\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$								
Each	\$7.70	8.40	9.00	9.50	9.80	10.20	11.40	11.90	13.30	14.70	16.00	17.00	18.00	20.00	21.75	23.00

## DRILLS

→MARSWELLS→

→MARSWELLS→



**No. 1020—MARSWELLS, HIGH SPEED**

### **Taper Shank, Flat Twist**

**With Size 2 Taper Shank**

Diam., In. ....	$\frac{7}{16}$	1542	$\frac{1}{8}$	17 $\frac{1}{2}$ 2	$\frac{9}{16}$	19 $\frac{1}{2}$ 2	$\frac{5}{8}$	21 $\frac{1}{2}$ 2	$\frac{11}{16}$	23 $\frac{1}{2}$ 2	$\frac{3}{4}$	25 $\frac{1}{2}$ 2	$\frac{13}{16}$	27 $\frac{1}{2}$ 2
Length, In. ....	$7\frac{1}{2}$	$7\frac{1}{4}$	8	$8\frac{1}{4}$	$8\frac{1}{2}$	$8\frac{1}{4}$	$8\frac{1}{2}$	9	$9\frac{1}{4}$	10	$10\frac{1}{4}$	$10\frac{5}{8}$	$10\frac{1}{2}$	$10\frac{1}{4}$
Weight, Oz. ....	5	5	7	8	8	11	12	13	15	16	18	20	22	24
Each	\$0.75	.85	.90	.95	1.05	1.10	1.20	1.30	\$1.40	1.50	1.60	1.70	1.90	2.00

With Size 3 Taper Shank

**With Size 4 Taper Shank**

Diam., In. ....	14	19 $\frac{1}{2}$	15 $\frac{1}{2}$	11 $\frac{1}{2}$	13 $\frac{1}{2}$	11 $\frac{1}{2}$	17 $\frac{1}{2}$	11 $\frac{1}{2}$	1 $\frac{1}{2}$	11 $\frac{1}{2}$	19 $\frac{1}{2}$	11 $\frac{1}{2}$
Length, In. ....	13 $\frac{1}{2}$	14 $\frac{1}{2}$	14 $\frac{1}{2}$	14 $\frac{1}{2}$	15 $\frac{1}{2}$	15$\frac{1}{2}$	15$\frac{1}{2}$	15$\frac{1}{2}$	15$\frac{1}{2}$	15$\frac{1}{2}$	15$\frac{1}{2}$	16
Weight, Lbs. ....	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	6	6	6 $\frac{1}{2}$	6 $\frac{1}{2}$	7	7 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$
Each. ....	\$4.90	5.10	5.30	5.45	\$6.10	6.30	6.35	6.60	6.70	7.25	7.60	8.00

**With Size 5 Taper Shank**

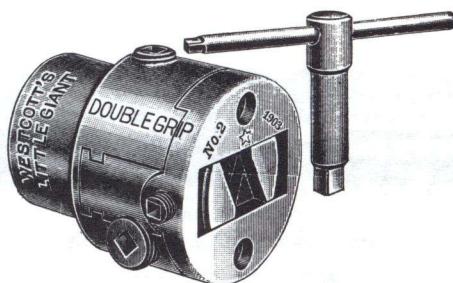
Diam., In. ....	1 $\frac{5}{8}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{3}{8}$	1 $\frac{1}{4}$	12 $\frac{5}{8}$	12 $\frac{1}{2}$	12 $\frac{7}{8}$	1 $\frac{7}{8}$	12 $\frac{9}{16}$	12 $\frac{5}{8}$	12 $\frac{1}{2}$	2
Length, In. ....	16 $\frac{1}{2}$	16 $\frac{1}{4}$	16 $\frac{1}{8}$	16 $\frac{1}{2}$	16 $\frac{1}{8}$	16 $\frac{1}{4}$	16 $\frac{1}{8}$	17	17 $\frac{1}{8}$	17 $\frac{1}{8}$	17 $\frac{1}{8}$	17 $\frac{1}{8}$	17 $\frac{1}{8}$
Weight, Lbs. ....	9	9 $\frac{1}{4}$	10	10 $\frac{1}{4}$	10 $\frac{1}{4}$	12	12	12 $\frac{1}{4}$	13	13	14	14 $\frac{1}{4}$	15



Na. 109EM—MARSWELLS 5 IN. SQUARE TAPER SHANK

For Ratchet Drills, Shank  $5/8 \times 1\frac{1}{2}$  in. Long; For Use in All Standard Makes of Ratchets; for Track Drilling, Boiler Work, etc.; Oil Finish

## DRILL CHUCKS



LITTLE GIANT

**Double Grip**; Extra Strong Screws; Forged Steel Cap makes it impossible to Spring the Chuck Body; a Fine Chuck for use on Bolt Cutting and Screw Machines to hold Iron to be Threaded, or for any work where a Chuck of Extra Strength is needed.

Nos.	0	1	2	2½	3	4
Take Drills, In.	2½	3	3½	4	6	6½
Capacity, In.	0 to ½	0 to ⅔	0 to 1	0 to 1	0 to 1½	0 to 2
Weight Each, Lbs.	4	6½	9½	12	34	37
Each	\$6.00	6.75	7.50	8.25	13.50	15.00

Note—No. 2½ is Special Extra Strong



STAR

These Chucks are to adapt the Drill Press Spindles to Use Straight Shank Drill Bits. They save the difference in cost between Straight Shank Drills of small size and those with expensive  $\frac{1}{4}$  in. or 41-64 in. Shanks; and are also more quickly changed. Three Jaw, Solid Steel, Knurled Nickel Plated Socket.

With  $\frac{1}{4}$  in. Round Shank Spindle

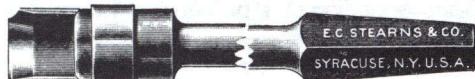
Nos.	5	6	7
Take Drills, In.	0 to $\frac{1}{4}$	0 to $\frac{3}{8}$	0 to $\frac{1}{2}$
Weight Each, Lbs.	$\frac{1}{2}$	$\frac{7}{8}$	$1\frac{1}{2}$
Each	\$1.25	2.00	2.50

## With 41-64 in. Round Shank Spindle

Nos.	50	60	70
Take Drills, In.	0 to $\frac{1}{4}$	0 to $\frac{3}{8}$	0 to $\frac{1}{2}$
Weight Each, Lbs.	$\frac{1}{2}$	$\frac{7}{8}$	$1\frac{1}{2}$
Each	\$1.25	2.00	2.50

Special Shanks, Straight or Taper, can be furnished at an additional charge of \$0.75

## PLUG CUTTERS



## For Use in Common Bit Brace

For Cutting Plugs to cover the heads of screws on work requiring a fine finish. The Knives are made of Fine Tool Steel, Tempered, are interchangeable and easily replaced; the Knife is held in place by a Steel Band.

Diameter, In.	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$
Weight Each, Lbs.	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{5}{32}$
Each	\$0.40	.45	.50

## ZENITH COUNTERSINKS

Used by Carpenters, Machinists, Plumbers, Stove Repairers, etc. For use in Bit Braces, Breast Drills and Large Lightning Screw Drivers



SNAIL

No. 55—For Wood; Tool Steel, Polished; Length 3½ in.....  
Weight 1 Oz. Each

Each  
\$0.25

FLAT HEAD

No. 33—For Iron; Made of Tool Steel Polished; Length 3½ in.....  
Weight 1 Oz. Each

Each  
\$0.25

WHEELER

For Wood; Tool Steel, Polished

By fastening the Gauge at a given point, any number of screws may be driven so as to leave the heads flush with the surface, or at a uniform depth below. Easily Sharpened with thin file.

No. 22—Complete with Depth Gauge.....  
No. 11—Without Depth Gauge.....  
Weight 1½ Oz. Each

Each  
\$0.40  
.25

ROSE

Each  
\$0.25

No. 44—For Brass and Hardwood; Tool Steel, Polished; Length 3½ in.....  
Weight 1 Oz. Each



DIAMOND, with Gimlet Point  
For Wood, Tool Steel, Straw Color Finish

Size Nos.	0	1	2	3
To Bore, In.	5/32 x 3/4	6/32 x 1	7/32 x 1 1/4	4 x 1 1/2
For Screws, In.	3/4	1	1 1/4	1 1/2
Each, All Sizes.				\$0.25

Weight 1 Oz. Each



LIGHTNING

For Iron; Extra Tool Steel, Polished; 5 in. Cut; Bit Brace Shank

No. 60—60 Degree Angle, for Tire and Plow Bolts.....	Each \$0.50
No. 80—80 Degree Angle, for Wood Screws.....	.50
Weight 4 Oz. Each	

## REAMER BITS

Made of Best Tool Steel; for Enlarging or Smoothing the hole where the Drilling or Punching is not Perfect



## ZENITH

No. 5—For Iron; Fluted, Polished Surfaces; Length 6 $\frac{1}{2}$  in., Size  $\frac{7}{16}$  in..... Each \$0.85  
Weight 2 Oz. Each



## SQUARE

No. 15—For Iron; Full Polished; Length 4 $\frac{1}{2}$  in.; Size  $\frac{5}{16}$  in..... Each \$0.30  
Weight 2 Oz. Each



## OCTAGON

No. 20—For Brass and all Soft Metals; Full Polished; Length 4 $\frac{1}{2}$  in.; Size  $\frac{5}{16}$  in..... Each \$0.30  
Weight 2 Oz. Each



## No. 10—LIGHTNING BRACE REAMERS

$\frac{1}{32}$  in. Oversize

For Enlarging and Truing the hole when the drilling or punching is not quite perfect, each Reamer Tapers  $\frac{1}{32}$  in. in one inch. For Iron or Wood, Extra Tool Steel, Polished Shank, Oil Finish.

Size, In.	$\frac{1}{32}$	$\frac{5}{16}$	$\frac{3}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$
Weight Each, Oz.	.45	.50	.55	.60	.70	.80	.90	1.05	1.20
Each									



## No. 120D—TAPER PIN REAMERS

Taper  $\frac{1}{4}$  inch per Foot

Size Nos.	0	1	2	3	4	5	6	7
Diam. Small End, In.	.135	.146	.162	.183	.208	.240	.279	.331
Length, In.	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{4}$	4	$4\frac{1}{2}$	5	$6\frac{1}{2}$
Length Flute, In.	$1\frac{1}{2}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{5}{8}$	$4\frac{1}{2}$
Each	\$0.70	.70	.85	1.05	1.20	1.40	1.55	1.75

Size Nos.	8	9	10	11	12	13	14
Diam. Small End, In.	.398	.482	.581	.706	.842	1.009	1.250
Length, In.	$6\frac{1}{2}$	8	9	$11\frac{1}{2}$	$13\frac{1}{2}$	16	$18\frac{1}{2}$
Length, Flute, In.	$5\frac{1}{2}$	$6\frac{1}{2}$	7	$8\frac{1}{2}$	10	12	$14\frac{1}{2}$
Each	\$2.10	2.45	2.80	3.20	3.85	4.50	5.40

Above Reamers have the same Taper, and each will overlay in Convenient Measure the next Size Smaller

## NAIL SETS

Zenith Nail Sets are Unconditionally Guaranteed; any found defective will be replaced when returned; each Zenith Nail Set has been tested on a block of Steel, if too soft the edge will turn over—if too hard it will crumble.

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## ZENITH SQUARE HEAD

The Square Head gives this Nail Set a nice appearance and prevents its rolling off a slanting surface; made of Best Quality Steel, Perfectly Tempered; Knurled Body, Natural Finish; Polished Ends; Length 4 in.

No. 2— $\frac{1}{32}$ in. Point.....	Each	\$0.15
No. 3— $\frac{3}{32}$ in. Point.....		.15
No. 4— $\frac{1}{8}$ in. Point.....		.15

Unconditionally



Guaranteed



Best Quality Steel; Perfectly Tempered; Knurled Body; Straw Finish; Polished Ends;  $\frac{1}{32}$ ,  $\frac{3}{32}$  and  $\frac{1}{8}$  in. Cup Point; Length 3 $\frac{1}{2}$  in. will set any Nail, Large or Small, Round or Flat Head.

No. 20— $\frac{1}{32}$ in. Point.....	Each	\$0.10
No. 30— $\frac{3}{32}$ in. Point.....		.10
No. 40— $\frac{1}{8}$ in. Point.....		.10



## ZENITH POCKET

Set No. 50—Contains Three Nail Sets, One $\frac{1}{32}$ and Two $\frac{3}{32}$ in., in Neat Leather Case with Brass Snap Fastening.....	Per Set	\$0.40
Weight 4 oz. per Set		

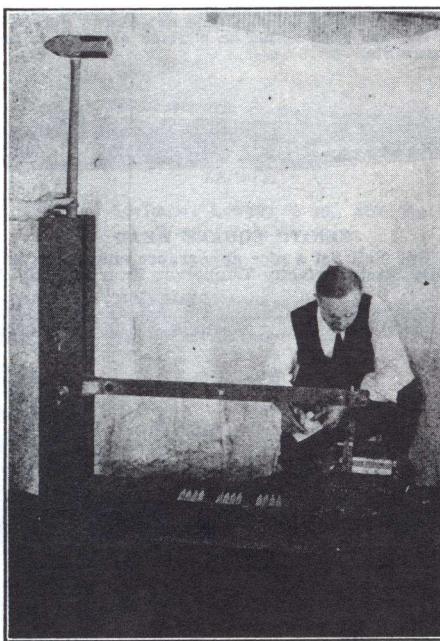
## PUNCHES



## TINNERS' CENTER PUNCHES

No. 455— $\frac{5}{16} \times 4$ in. Solid Cast Steel; Round, Knurled Shank, Straw Colored Head and Point.....	Each	\$0.15
Weight 1 Oz. Each		

## ZENITH COLD CHISELS AND PUNCHES



Testing Cold Chisels

Inasmuch as the machine punch follows much the same processes in manufacture and is used in a much similar manner, we will describe the cold chisel only and let this suffice for both.

What other tool is there of which the requirements are so severe, where it must answer for any kind of work or it balks the mechanician?

He cold chisels on steel or cast iron of every grade, without any particular care as to its composition; usually emergency work, in which the chisel itself receives scant consideration.

## HOW WE DECIDED

In choosing between English and Swedish, we selected a Swedish steel, of a high crucible grade, as being the most uniform. In the various lots tested during the last year, the greatest range did not vary over 4 per cent in its carbon content. The manganese, phosphorus and sulphur were confined to the lowest possible proportions.

After determining the proper kind of steel and experimenting with many changes of heat treatment, the resulting product in the chisels was tested somewhat as follows, in a machine especially designed for this purpose, shown herewith.

The sledge hammer, held upright between the standards, has a regular 36 inch handle, weight 16 pounds; and, being slanted a little off its perpendicular, if released, falls always with the same amount of force on the head of the cold chisel, held in a chuck at the end of the flat steel arm.

The chisel makes a cut about every 1/16 inch in a standarized testing bar, causing it

to look something like a file.

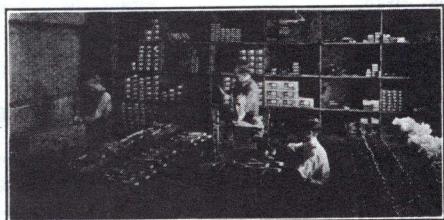
The number of cuts a chisel can make, before it shows appreciable signs of wear, determines its relative value with other chisels under test, the best, of course, being the one that is the least dulled.

The chisels were further tested on their corners, by having them driven edgewise into hardened steel blocks, noting where there was any break or other defacing of the corners.

## A FINAL LOOKOVER

In the inspection department, before the chisels are put into stock, each is tested by the sclerroscope, to know that it is up to the specifications, and is carefully examined for surface flaws, tempering cracks, etc.

Zenith chisels are made in the shape of a special die maker's pattern, with good, full shoulders the full length of the bit.



Inspection Department

## COLD CHISELS AND PUNCHES

For Cutting Cold Iron in Every Form



ZENITH, BEST QUALITY SOLID STEEL

Zenith Cold Chisels are made from the very Finest Swedish Steel; they have a Cutting Edge which will cut any untempered Steel; each Chisel is tested for Hardness and Toughness and is Guaranteed against chipping or cracking or defects of any kind; the Blade is forged in such a way as to afford a Hand Hold, preventing Slipping or Jambing of the Hand in Working.

## No. 1—5 to 9 in., Half Polished

Size, In.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$1$
Length, In.	5	5	6	7	8	8	9
Doz., Lbs.	2	2 $\frac{1}{4}$	4	6 $\frac{1}{4}$	10	16	21
Each	\$0.15	.15	.25	.35	.50	.75	.90

## No. 2—10 in. Long; Natural Finish, Polished Bit and Head

Size, In.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Weight Dozen, Lbs.	6 $\frac{1}{4}$	10	14
Each	\$0.25	.35	.50



No. 9—ZENITH CAPE CHISELS

For Cutting Key Seats in Shafting, etc.; Octagon Tool Steel; Half Polished; Oil Tempered.

Size, In.	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
Length, In.	7	7	7 $\frac{1}{4}$
Weight Dozen, Lbs.	6 $\frac{1}{4}$	6 $\frac{1}{4}$	9 $\frac{1}{2}$
Each	\$0.30	.35	.40

## No. 11—ZENITH ROUND NOSE CHISELS

Used by Machinists when a Round Groove is wanted; Octagon Tool Steel; Half Polished; Oil Tempered.

Size, In.	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
Length, In.	7	7	7 $\frac{1}{4}$
Weight Dozen, Lbs.	6	6	9 $\frac{1}{2}$
Each	\$0.40	.50	.60



No. 7—ZENITH DIAMOND POINT CHISELS

Used by Blacksmiths and Machinists for Cutting a V Shaped Groove in Metal; Octagon Tool Steel; Half Polished; Oil Tempered.

Size, In.	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
Length, In.	7 $\frac{1}{2}$	7 $\frac{3}{4}$	8
Weight Dozen, Lbs.	7	11	15
Each	\$0.40	.50	.60

## ZENITH MACHINE PUNCHES

Solid American Tool Steel, Octagon, Long Taper 7 in. Long; Half Polished

Each
No. 14— $\frac{1}{16}$ in., Diam. Point
No. 15— $\frac{5}{32}$ in., Diam. Point
No. 16— $\frac{3}{16}$ in., Diam. Point

## 10 in. Long; Natural Finish; Polished Head and Point

Each
No. 17— $\frac{1}{16}$ in., Diam. Point
No. 18— $\frac{5}{32}$ in., Diam. Point
No. 19— $\frac{3}{16}$ in., Diam. Point

## SCREW DRIVER BITS

Fit Any Brace, Drive Much Faster and More Easily than Common Screw Driver



ZENITH

Each

$\frac{3}{8}$  in. Extra Quality Tool Steel, Polished Blade and Shoulder; Length 3 $\frac{1}{2}$  in.; Round Shank, Straw Color Finish ..... \$0.25

Weight 2 Oz. Each

HARTFORD

Each

Assorted Sizes; Blades  $\frac{1}{8}$ ,  $\frac{7}{16}$  and  $\frac{1}{2}$  in. Wide; Extra Tool Steel, Polished; Length 4 $\frac{1}{2}$  in.; Round Shank ..... \$0.15

Weight 2 Oz. Each

## ZENITH SCREW DRIVERS



No. 51—ZENITH, REGULAR

Octagon Tool Steel Blade, extending through Handle with Large Head to protect Handle when struck with a Hammer; Rivet passes through Ferrule, Handle and Blade; Rubberoid Finished Handle, Fluted to give firm grip.

Length Blade, In.	2	3	4	5	6	8	10	12
Diam. Rod, In.	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{7}{16}$
Weight Oz.	2	$2\frac{1}{2}$	3	4	5	8	10	13
Each	\$0.25	.25	.30	.35	.40	.50	.60	.70



No. 55—ZENITH, ELECTRICIANS'

Octagon Tool Steel Blade, same as above, only it does not extend through the Handle; Rivet passes through Ferrule, Handle and Blade; Rubberoid Finished Handle, Fluted to give firm grip.

Length Blade, In.	2	3	4	5	6	8	10
Diam. Rod, In.	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$
Weight Oz.	2	$2\frac{1}{2}$	3	4	5	8	10
Each	\$0.20	.25	.25	.30	.35	.40	.50



No. 53—ZENITH, CABINET

Made of High Grade Octagon Tool Steel, forced into Handle by Hydraulic Pressure; Fastened securely by Rivet which passes through Ferrule Handle and Blade; Rubberoid Finished Handle; Fluted to give firm grip.

Length Blade, In.	2	3	4	5	6	8	10
Diam. Rod, In.	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$
Weight Oz.	1	$1\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	3	3
Each	\$0.20	.25	.25	.30	.35	.40	.50

## ZENITH AWLS AND TOOLS



Polished Cocobolo Handle; Nickel Plated, Knurled Ferrule and Jaws; Will hold anything from a Fine Awl to a Mill File and can be used as a Hand Vise; Tools are Highest Grade Steel, Tempered, Honed and Oil Finished; The Jaws of the Handle shut over the Shoulder of the Tool, Making it Impossible to Pull Out when in Use.

Per Set  
**No. 5—**7½ in. Handle containing Eleven Tools, One Chisel, One File, One Gouge, Two Screw Drivers, One Reamer, One Gimlet, One Brad Awl, One Scratch Awl and Two Key Hole Saw Blades, One 4 in. and One 8 in. Long; Length of other Tools, 3½ in. .... \$1.50  
 Weight 1 Lb. per Set

Per Set  
**No. 4—**6½ in. Handle containing Eleven Tools, One Reamer, One Gouge, Two Chisels, One Gimlet, Two Screw Drivers, Two Brad Awls, One Scratch Awl and One 8 in. Keyhole Saw Blade; Length of other Tools 2½ in. .... \$1.00  
 Weight 1½ Lbs. per Set



## CARVING TOOLS

## Bent Gouges



No. 12

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 13

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 14

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 15

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 16

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 17

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 18

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.60	.70	.80	.95	1.10	1.40



No. 19

Size, In.	1/16 to 1/2	5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25	1.50



No. 20

Size, In.	1/16 to 1/2	5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25	1.50

## Straight Gouges



No. 3

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 4

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 5

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 6

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 7

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 8

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 9

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 10

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	.60	.75	.85	1.00	1.25



No. 11

Size, In.	1/16 to 5/8	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.60	.70	.80	.95	1.10	1.40

## CARVING TOOLS

## Parting Tools



No. 39

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.60	.75	1.00	1.25	1.50



No. 40

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.70	.85	1.00	1.25	1.50



No. 41

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.70	.85	1.00	1.25	1.50



No. 42

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.70	.85	1.00	1.25	1.50



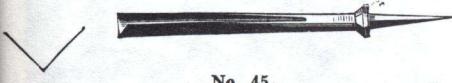
No. 43

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.70	.85	1.00	1.25	1.50



No. 44

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.70	.85	1.00	1.25	1.50



No. 45

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.60	.75	1.00	1.25	1.50



No. 46

Size, In.	$\frac{1}{16}$ to $\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each	\$0.70	.85	1.00	1.25	1.50

## Bent Chisels



No. 21

Size, In.	$\frac{1}{16}$ to $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Each	\$0.50	.55	.60	.75	.85	1.10



No. 22—RIGHT CORNER

Size, In.	$\frac{1}{16}$ to $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Each	\$0.50	.55	.60	.75	.85	1.10



No. 23—LEFT CORNER

Size, In.	$\frac{1}{16}$ to $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Each	\$0.50	.55	.60	.75	.85	1.10

## Carving Tools



FLUTING GOUGES

Per Set

No. 117—Set of 9, assorted  $\frac{1}{8}$  to 1 in.....\$6.00

PARTING TOOLS

Per Set

No. 118—Set of 9, assorted  $\frac{1}{8}$  to  $\frac{1}{2}$  in.....\$7.50

STAIR BUILDERS' CHISELS

Per Set

No. 118C—Set of 3; Sizes  $\frac{1}{2}$ , 1 $\frac{1}{2}$  and 2 $\frac{1}{2}$  in.....\$2.25

STAIR BUILDERS' GOUGES

Per Set

No. 118D—Set of 3; Sizes  $\frac{1}{2}$ , 1 and 1 $\frac{1}{2}$  in.....\$2.25

## CARVING SETS

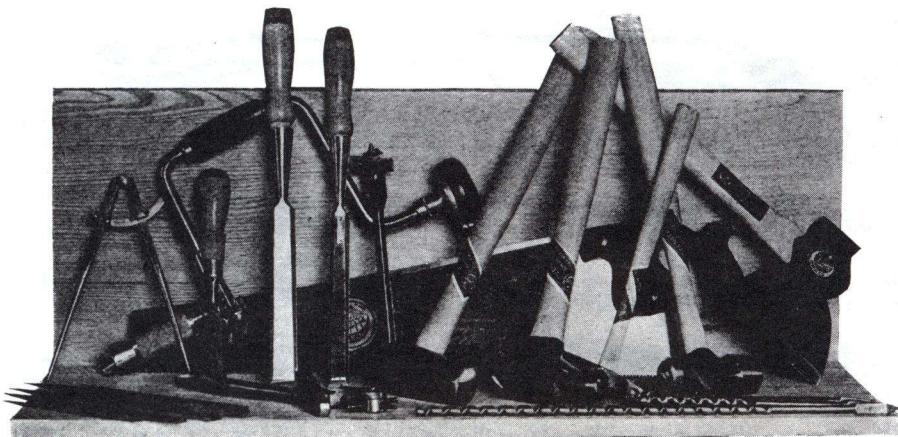
For Amateurs, intended for Light Work only; Polished Steel Blades, Rosewood Handles, 6 Tools in Each Set



Set No. 1—Contains Three Chisels, One Veining Tool, One Gouge and One Parting Tool; Length of Tools, over all  $5\frac{3}{4}$  in.; Length of Blades  $2\frac{1}{2}$  in.; In  $6\frac{1}{4} \times 3\frac{1}{4} \times 1\frac{1}{4}$  in. Wood Box; Weight 9 Oz. per Set..... Per Set \$1.35

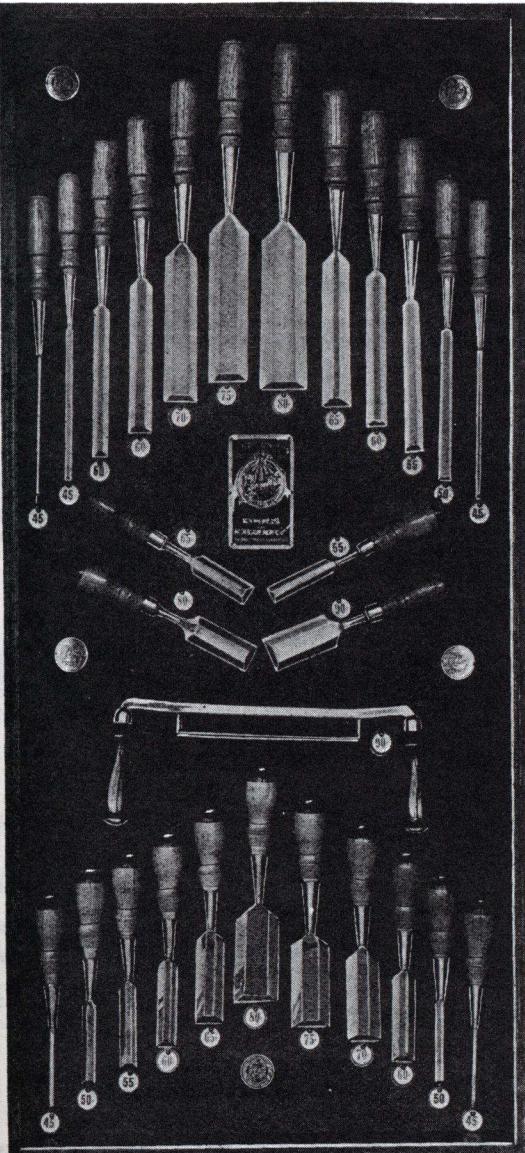


Set No. 2—Contains Three Gouges, One Veining Tool, One Bevel Tool and One Straight Chisel; Length of Tools over all  $8\frac{1}{2}$  in., Length of Blades  $4\frac{1}{2}$  in.; In  $9 \times 5\frac{1}{2} \times 1\frac{1}{2}$  in. Wood Box; Weight 1 Lb. per Set..... Per Set \$2.00



Zenith Tools are Unconditionally Guaranteed

## CARPENTERS' CHISELS



Zenith quality is also found in Corner Chisels, in Gouges having inside bevel for stock and outside bevel to be ordered especially from the factory; in extra thick Framing Chisels, for work in heavy timber, and in Carpenter's Slicks for heaviest construction.

In Chisel investigation, we tried out the product of 12 different manufacturers; after picking up from different expert mechanics their pet Chisels for standardization.

Various kinds of wood were cut, the Chisel being driven by heavy blows from a Mallet, much more severe than in the hardest actual usage.

The Chisels were next forced through the wood under steady mechanical pressure, noting the load necessary and the behavior of the Chisel under strain.

In individual maker's lines, there was found a spread as great as 30 points, under the Scleroscope, meaning a difference in the rebound of the diamond tipped Hammer of 30 per cent of the entire scale. This meant that they were far too hard or much too soft.

To test brittleness, the Chisels were fastened in a Vise and heavy blows were struck, causing the Chisel to vibrate like a large tuning fork, which will invariably show up flaws. If too hard, the Chisel would break; if too soft, it would take a permanent bend.

## A BETTER TOOL

After having determined the best that were already made we next experimented with different kinds of Steel and improved heat treatment, which enabled us to still further improve our Chisels.

The Blade is forged out especially thin, with a wide English bevel and tempered two-thirds the way up the body so that the Chisel may be used almost to the Socket before reaching the thicker, unhardened portion, left soft to better withstand the strain of prying.

This requires extra grinding for the bevel and is more costly, but gives a better balance, a keener edge for cutting, and the body is quite thick enough to stand all prying strain.

## THE HANDLES

Pattern Makers and fine finishers of Woodwork must use their hands to work around a design, and so Zenith Chisel Handles are all made for the best of mechanics, with straight sides, giving a nice firm grip.

The Handles are made from the best of second growth, wide grain hickory, sized according to the width of Bit with Leather Tops, the best protection for heavy work under Hammer or Mallet.

On the short Pocket and Butt Chisels, however, the Handle is pear shaped, with a big round knob, as they are mostly driven with the heel of the hand.

Zenith Socket Chisels are made in three styles. Regular Firmer Chisel with 6 to 6½ inch Blade. Cabinet Chisel, midway between regular and Pocket, having 4½ inch blade.

Pocket Chisel has a 3 inch Blade.

Butt Chisel is a tanged firmer, with a short Blade, matching the Pocket Chisel, whose Handle fits in a Socket.

## ZENITH SOCKET FIRMER CHISELS AND GOUGES

## Unconditionally Guaranteed

The New Zenith Chisels are Forged from the Best Grade of Swedish Tool Steel, which has been specially Heat Treated and Tempered to meet Our Requirements. Each Chisel is Tempered Two Thirds the length of the Blade and is Tested to Measure up to our Proper Standard of Hardness. Note the Wide Bevel of the Blade and the New Style, Extra Quality, Leather-Tipped, Hickory Handle. Each Chisel Sharpened and Hand Honed. Handles of all Socket Firmer Chisels same style as No. 100.



## No. 100—ZENITH, BEVELED EDGE

Blades 6½ In. Long

Width of Blade, In.	1/8	1/4	5/16	1/2	5/8	6/8	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2
Weight Each, Oz.	5	5	5 1/2	7	9	10	11	12	14	16	18	18	20	
Each	\$0.50	.50	.50	.60	.60	.60	.65	.70	.75	.80	.85	.85	.90	

## No. 105—ZENITH CABINET, BEVELED EDGE

Blades 4½ In. Long

Same Quality and Style as the No. 100 except that the Blade is Shorter; making a Lighter Weight Chisel, which is Very Popular for Manual Training, Carpenter and Cabinet Makers' Work. Suitable for all work except Heavy Framing.

Width of Blade, In.	1/8	1/4	5/16	1/2	5/8	6/8	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2
Weight Each, Oz.	4	4	5	5 1/2	6	6	7	9	10	12	14	18	19	
Each	\$0.50	.50	.50	.60	.60	.60	.65	.70	.75	.80	.85	.85	.90	

## No. 110—ZENITH, PLAIN EDGE

Blades 6½ in. long

Leather Capped, White Hickory Handle

Width of Blade, In.	1/8	1/4	5/16	1/2	5/8	6/8	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2
Weight Each, Oz.	5	5	5	7	8	9	10	12	14	16	20	20	23	
Each	\$0.35	.35	.35	.40	.45	.45	.50	.60	.65	.70	.75	.70	.75	



## No. 160—ZENITH SOCKET CORNER CHISELS

8 in. Blade, Polished Hickory Handle, with Malleable Iron Ferrule

Width of Blade, In.	3/8	5/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2
Weight Each, Lbs.	1	1 1/8	1 1/4	1 1/2	1 1/4	1 1/2	1 5/8	1 1/2	2 1/2
Each	\$1.10	1.25	1.35	1.50	1.50	1.75	1.75	1.75	1.75



## No. 170—ZENITH SOCKET FIRMER GOUGES

For Mortising Timbers and Heavy Work on Buildings, Bridges, etc.; 6½ in. Blade, Inside Bevel; Polished Hickory, Leather Capped Handle

Width of Blade, In.	1/8	1/4	5/16	1/2	5/8	6/8	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2
Weight Each, Oz.	5	5	5	5 1/2	8	10	11	12	14	16	19	21		
Each	\$0.85	.85	.85	.90	.95	1.00	1.05	1.10	1.25	1.50	1.75	2.00		

## ZENITH SOCKET FIRMER GOUGES IN SETS

Per Set

Set No. 176—Contains Twelve Sizes, One Each, 1/8, 1/4, 5/16, 1/2, 5/8, 6/8, 7/8, 1, 1 1/8, 1 1/4 and 2 in.; Weight 8 Lbs. per Set..... \$10.00

One Set in a Plain Wood Box

## TANGED TURNING TOOLS



## No. 180

Forged from High Carbon Tool Steel; Full Polished and Etched; Perfectly Tempered, Ground and Honed; Without Handle

## No. 180—ZENITH TURNING CHISELS

Width of Blade, In.	1/8	3/8	1/2	5/8	6/8	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2	
Weight Each, Oz.	1 1/8	2	2 1/4	3	5	5	5	6	8	10	12	12	16	
Each	\$0.30	.35	.40	.45	.50	.50	.60	.70	.85	1.15	1.50			



Width of Blade, In.	1/8	3/8	1/2	5/8	6/8	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8	1 1/2	2	
Weight Each, Oz.	1 1/8	2 1/4	4	5	5 1/2	6	8	12	14	16	18			
Each	\$0.40	.45	.50	.60	.65	.75	.80	1.00	1.25	1.50	1.75			

## ZENITH CHISELS AND GOUGES

## Unconditionally Guaranteed

The New Zenith Chisels are Forged from the Best Grade of Swedish Tool Steel, which has been specially Heat Treated and Tempered to meet our Requirements. Each Chisel is Tempered Two Thirds the length of the Blade and is Tested to Measure up to our Proper Standard of Hardness. Note the Wide Bevel of the Blade and the New Style, Extra Quality, Leather Capped, Hickory Handle. Each Chisel is Full Polished, Sharpened and Hand Honed.



No. 120—ZENITH SOCKET POCKET CHISELS

Wide Beveled Edge Blade,  $3\frac{1}{4}$  in. Long; Full Turned Handle. This Chisel is largely used as a Butt Chisel by those who prefer the Socket Firmer Style

Width of Blade, In.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Weight Each, Oz.	.30	.34	.38	.42	.46	.50	.55	.60	.65	.70	.75
Each	\$0.50	.50	.60	.60	.60	.65	.70	.75	.80	.85	.90



No. 140—ZENITH SOCKET POCKET GOUGES

$\frac{1}{2}$  in. Blade, Highest Grade, Crucible Steel, Perfectly Tempered, Full Crocus Polished, Inside Bevel, Sharpened and Honed ready for Use; Leather Capped, Polished Hickory Handle

Width of Blade, In.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Weight Each, Oz.	.24	.30	.34	.38	.42	.46	.50	.60	.65	.70	.75
Each	\$0.85	.85	.85	.90	.90	.95	1.00	1.10	1.25	1.50	1.65



No. 130—ZENITH BUTT CHISELS

$\frac{3}{4}$  in. Bevel Edged Blades, Made of Solid Steel, Polished; Leather Capped, Polished, Hickory Handle, Brass Ferrule; Used by Carpenters in Hanging Doors, etc.

Width of Blade, In.	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Weight Each, Oz.	.50	.50	.60	.60	.60	.65	.70	.80	.85	1.00	1.15
Each	\$0.50	.50	.60	.60	.60	.65	.70	.80	.85	1.00	1.15



No. 200—ZENITH CARPENTERS' SOCKET SLICKS

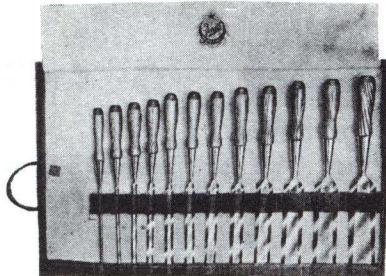
$\frac{9}{16}$  to  $1\frac{1}{2}$  in. Oval Back Blade, Ground and Honed; Made of Extra Tool Steel, Polished and Perfectly Tempered; Polished Maple Handle

Width of Blade, In.	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Weight Each, Lbs.	4 $\frac{1}{2}$	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$
Each	\$2.00	2.25	2.50	3.00

## ZENITH CHISEL SETS IN ROLLS

Each Chisel is in a Separate Compartment and Fully Protected from Injury; When rolled up they occupy the smallest possible space in the Tool Chest; the Rolls are made of Heavy Canvas, Flannel Lined and Strongly Stitched; with Strap and Buckle Fastening.

Size of Roll opened 22x40 In.



## ZENITH SOCKET FIRMER CHISELS

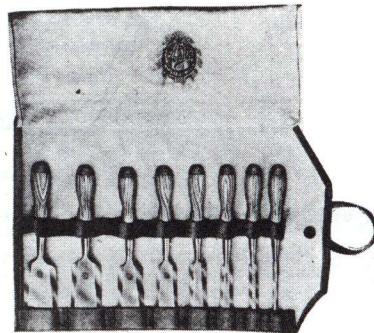
Extra Quality Crucible Steel Blades, Perfectly Tempered, Full Mirror Polished, Sharpened and Honed by Hand, ready for use; Leather Capped, Polished Hickory Handles; 6 to 7 in. Blades.

## Beveled Edge

Per Set  
Set No. 102—Contains 12 Sizes, One Each,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$  and 2 in.....\$7.50

## Plain Edge

Per Set  
Set No. 112—Contains 12 Sizes, One Each,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$  and 2 in.....\$6.50  
Weight 10 Lbs. per Set

ZENITH SOCKET POCKET CHISELS  
Beveled Edge

Highest Grade, Crucible Steel, Perfectly Tempered, Full Mirror Polished; Sharpened and Honed by Hand ready for use; Leather Capped, Polished Hickory Handle; 3 $\frac{1}{2}$  in. Blades.

Per Set

Set No. 122—Contains 8 Sizes; One Each,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$  and 2 in.....\$5.50  
Weight 4 Lbs. per Set

Unconditionally

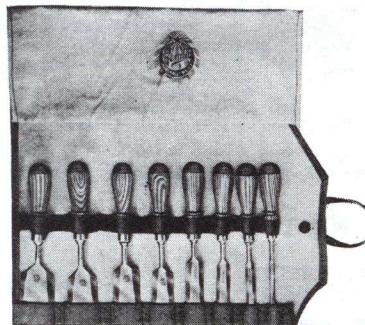


Guaranteed

Unconditionally



Guaranteed



## ZENITH, TANGED BUTT CHISELS

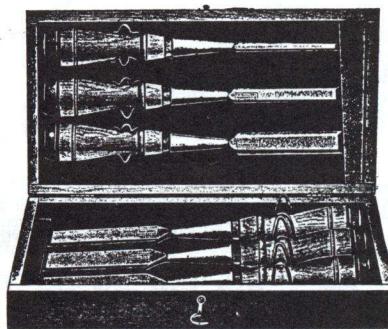
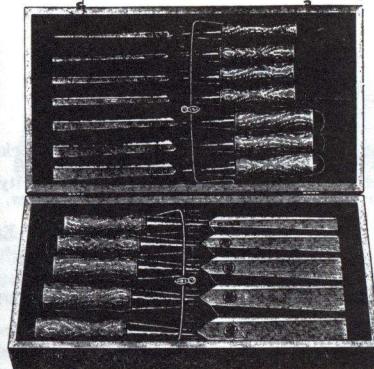
## Beveled Edge

Highest Grade, Crucible Steel, Perfectly Tempered, Full Mirror Polished; Sharpened and Honed by Hand, ready for use; Leather Capped, Polished Hickory Handles; Brass Ferrules, 2 $\frac{1}{2}$  in. Blades.

Per Set

Set No. 132—Contains 8 Sizes, One Each,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$  and 2 in.....\$6.50  
Weight 3 Lbs. per Set

## ZENITH CHISEL SETS IN BOXES



## ZENITH SOCKET FIRMER

Per Set

Set No. 101—Beveled Edge; Set contains Twelve Sizes, One Each $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , $1\frac{1}{8}$ , $1\frac{1}{4}$ and 2 in.; Leather Capped.....	\$7.75
Set No. 111—Zenith Plain Edge; Otherwise same as above .....	\$6.75
Each Set in a Fancy Hardwood Box, Size $16\frac{1}{2} \times 8\frac{1}{2} \times 4\frac{1}{4}$ in., with Brass Hinges and Fastenings	

Weight  $10\frac{1}{2}$  Lbs. per Set

## CHISEL HANDLES



## TANGED FIRMER, Leather Head

Each

No. 83—Selected, Well Seasoned Hickory Stock; Two Layer Leather Head which Lessens the Jar of the Blow and Protects the Wood Handle; Heavy Brass Ferrule; Assorted Four Lengths, $4\frac{1}{2}$ , $5\frac{1}{2}$ , 6 and $6\frac{1}{2}$ in., for Chisels $\frac{1}{8}$ to $1\frac{1}{2}$ in.....	\$0.10
Average Weight $1\frac{1}{2}$ Lbs. per Dozen	



## SOCKET FIRMER, Leather Head

Each

No. 60—Selected Well Seasoned Hickory Stock; Three Layer Leather Head, Lessens Shock of Contact and Protects the Wood Handle; Assorted Four Lengths $5\frac{1}{2}$ , $5\frac{1}{2}$ , 6 and $6\frac{1}{2}$ in.; For Chisels $\frac{1}{8}$ to 2 in.....	\$0.10
Average Weight 2 Lbs. per Dozen	



## POCKET SOCKET FIRMER Each

No. 70—Selected Second Growth Hickory, Turned; Tipped with three Layers of Leather; Length 3 in.; Assorted Sizes for Chisels $\frac{1}{8}$ to 2 in.....	\$0.10
Weight 1 Lb. per Dozen	

## ZENITH SOCKET POCKET

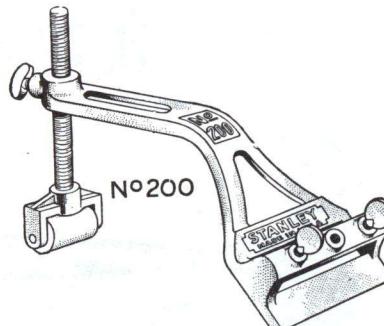
For Amateurs and Mechanics who desire a Light, Handy Tool Per Set

Set No. 121—Contains Six Sizes, One Each $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{3}{8}$ , $\frac{1}{2}$ and $1\frac{1}{8}$ in.; Solid Tool Steel, Full Polished; $3\frac{1}{2}$ in. Blade, Beveled Edge; Leather Capper Handle .....	\$5.25
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In Fancy Hardwood Box, Size  $11 \times 5\frac{1}{2} \times 2\frac{1}{2}$  in., with Brass Hinges and Fastenings; Each Chisel held in place by a Clasp.

Weight 3 Lbs. per Set

## CUTTER AND CHISEL GRINDERS



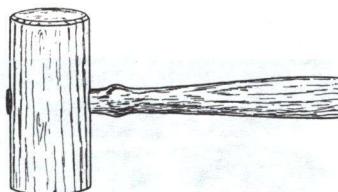
For holding Plane Irons, Chisels and similar Cutting Tools to be ground or honed to any desired angle or bevel.

The Tool is held rigidly by Thumb Screws; by turning the Roller at an angle it is possible to obtain the slanting stroke commonly used when Tools are sharpened without a Holder.

No. 200—All Metal, Nickel Plated.....	Each \$0.90
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One in a Box; Weight  $1\frac{1}{2}$  Lbs. Each

## MALLETS



TINNERS' MALLETS

Used by Tinners and those who require a Tool for light jobs. Has Rounded Ends and will not mar the work. Especially adapted to flattening Tin. Head and Handle made of good White Hickory.

Size of Head	2 $\frac{1}{2}$ x 5 $\frac{1}{2}$	2 $\frac{1}{2}$ x 5 $\frac{1}{2}$	2 $\frac{1}{2}$ x 6	2 $\frac{3}{4}$ x 6	3 x 6
Wt. Each, Lbs.	.8	1	1 $\frac{1}{6}$	1 $\frac{1}{3}$	1 $\frac{1}{2}$
Each	\$0.15	.15	.20	.20	.25

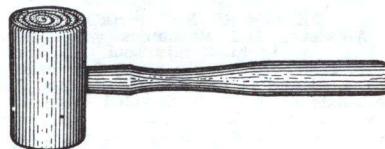


RUBBER MALLET

For use in Furniture and all Wood Working Factories, Machine and Engine Shops, etc. Instead of chipping or mashing, the elasticity of the rubber takes up the force of the blow. It will not mar finished work.

Each

No. 18—Hub Shape; Weight 1 $\frac{1}{2}$ to 2 Lbs.; Length of Head 4 in., Diam. of Center 3 in., Diam. of Face 2 $\frac{1}{2}$ in.; Second Growth Hickory Handle	\$1.00
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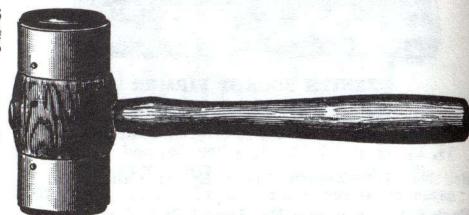
RAWHIDE MALLETS

For Mechanics, Engineers, Lathe Workers, Jewelers or any one wishing to strike a hard blow without injuring the most delicate surface. The Solid Rawhide Head acting as a preventative whereas a head of harder material would be destructive to the object worked upon.

Nos.	0	1	2	3
Size Head, In.	1 x 2 $\frac{1}{2}$	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	1 $\frac{1}{2}$ x 3	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$
Weight Each, Oz.	1 $\frac{1}{4}$	3 $\frac{1}{2}$	6	7 $\frac{1}{2}$
Each	\$0.30	.40	.50	.60

Nos.	4	5	6
Size Head, In.	2 x 3 $\frac{1}{2}$	2 $\frac{1}{2}$ x 4 $\frac{1}{2}$	2 $\frac{3}{4}$ x 4 $\frac{1}{2}$
Weight Each, Oz.	10	21	23
Each	\$0.75	1.50	2.00

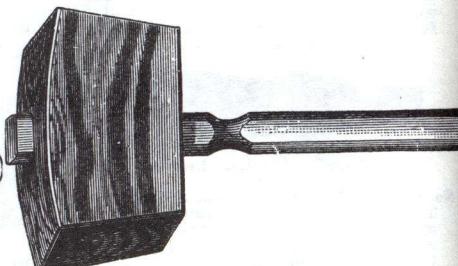
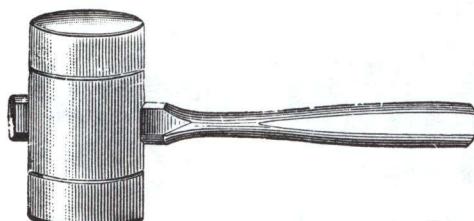


VULCANIZED FIBRE HEADS

Ends are Hard, Dense and Extremely Tough, Elastic enough to form a cushion, relieving the Arm from all Jar; thoroughly Kiln Dried Hickory; Polished Malleable Iron Bands, riveted to Body and tapering on the inside to hold the Fibre Ends firmly in place; Handle screws into the Body.

Each

No. 2—Size of Head 2 x 5 in.	\$0.75
Weight 1 $\frac{1}{2}$ Lbs. Each	
No. 2 $\frac{1}{2}$ —Size of Head 2 $\frac{1}{2}$ x 5 $\frac{1}{2}$ in.	.85
Weight 1 $\frac{1}{2}$ Lbs. Each	
No. 3—Size of Head 3 x 5 $\frac{1}{2}$ in.	1.00
Weight 2 $\frac{1}{2}$ Lbs. Each	



Heads Made of Best Solid Stock, with Mortised Second Growth Hickory Handles

## ROUND HEAD, HICKORY

Each

No. 02—Size of Head 3 $\frac{1}{2}$ x 5 $\frac{1}{2}$ in.	\$0.25
Weight 1 $\frac{1}{2}$ Lbs. Each	

No. 03—Size of Head 4 x 6 in.	.30
Weight 2 $\frac{1}{2}$ Lbs. Each	

## ROUND HEAD, LIGNUMVITAE

Each

No. 06—Size of Head 3 $\frac{1}{2}$ x 5 $\frac{1}{2}$ in.	\$0.50
Weight 2 $\frac{1}{2}$ Lbs. Each	

No. 07—Size of Head 4 x 6 in.	.65
Weight 3 $\frac{1}{2}$ Lbs. Each	

## SQUARE HEAD, HICKORY

Each

No. 9—Size of Head 2 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 6 $\frac{1}{2}$ in.	\$0.30
Weight 2 Lbs. Each	

## SQUARE HEAD, LIGNUMVITAE

Each

No. 12—Size of Head 2 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 6 $\frac{1}{2}$ in.	\$0.65
Weight 2 $\frac{1}{2}$ Lbs. Each	

No. 13—Size of Head 3 x 4 x 7 in.	.75
Weight 3 $\frac{1}{2}$ Lbs. Each	

## ZENITH DRAWING KNIVES

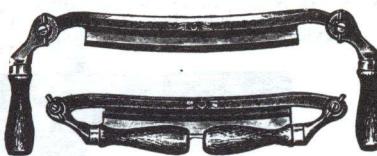
Used by Carpenters, Wood Workers, Wagon and Carriage Makers, Farmers, Cedar Men, etc.



No. 100—ZENITH CARPENTERS

Extra Quality Crucible Tool Steel, Razor Blade Pattern, with Special Fancy Finish; Ebonized Handles; Nickel Plated Caps and Ferrules, Ground and Honed.

Length Blade, In.....	7	8	9	10	12
Weight Each, Lbs..	1 1/6	1 1/2	1 1/6	1 1/2	1 1/2
Each	\$0.80	.85	.90	1.00	1.25



ZENITH, FOLDING HANDLES

The Handles fold over Edge of Blade, fully protecting it from Contact with other Tools, besides making it very compact for the Carpenter's Chest; Handles held Rigid at any angle by tightening Screws at Joints.

Each

No. 150—8 in. Crucible Tool Steel Blade, 1 1/2 in. Wide; Rosewood Finished Handles; Nickel Plated Ferrules .....	\$2.00
Weight 1 1/2 Lbs. Each	



SHINGLE OR PEELING

For Heavy Work, such as Shaving Shingles, Peeling and Barking Poles, etc.

No. 114—Zenith; Crucible Tool Steel Blade, 14 in. Long, 2 1/2 in. Wide; Plain Beechwood Handles .....	\$2.50
Weight 3 1/2 Lbs. Each	



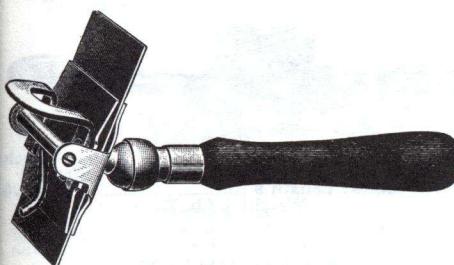
ZENITH CABINET SCRAPERS

Adjustable to any thickness of Blade; Knurled Thumb Screws.

Each

No. Z115—2 1/2 in. Polished Steel Reversible Blade; Black Enamelled Frame 11 1/2 in. Long; Nickel Plated Thumb Screws .....	\$1.00
Weight 1 1/4 Lbs. Each	

No. Z115B—Extra Blades .....	\$0.25
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ZENITH CABINET SCRAPERS

A Hand Rest relieves the strain on wrist and arm; the blade is clamped between two Spring Plates and fastened with a Cam Lock; any length of Blade may be used; Ball and Socket Joint allows adjustment in any direction.

No. Z125—Polished Steel Frame and Blade; 7 in. Mahogany finished handle; complete with one 3x5 in. Blade.....	\$1.50
Weight 1 1/2 Lbs. Each	

No. Z125B—Extra Blades .....	\$0.25
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HAND CABINET SCRAPERS

High Grade Steel, Special Temper, Polished

Each

No. 34—Size 3 x 4 in.; Wt. 1 Oz. Each.....	\$0.10
No. 35—Size 3 1/2 x 5 in.; Wt. 2 Oz. Each.....	.10



SWAN NECK CABINET SCRAPERS

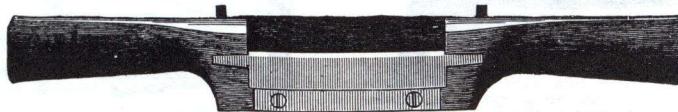
Adapted for Round or Grooved Surfaces

Each

No. 36—Finest Steel, Polished; Edges ground True and Perfectly Square; Length 5 1/4 in.; Width 3 1/16 in. .....	\$0.25
Weight 2 Oz. Each	

## SPOKE SHAVES

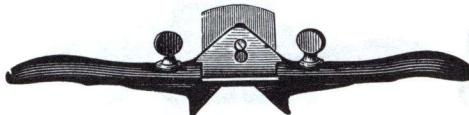
There is considerable difference of opinion among mechanics as to whether a Wood or Iron Spoke Shave is preferable; our carefully kept Sales Records show that there are great many more Iron Spoke Shaves sold than Wood ones; they are more easily kept sharpened and seem to give better service.



## BEECHWOOD HANDLES

Polished, Cast Steel Cutter, Brass Plate; Brass Thumb Screws	Each
No. 193—3 in. Cut; 11 in. Long; Weight $\frac{1}{3}$ Lb. Each	.90
No. 194—3 $\frac{1}{2}$ in. Cut; 11 in. Long; Weight $\frac{1}{2}$ Lb. Each	.90

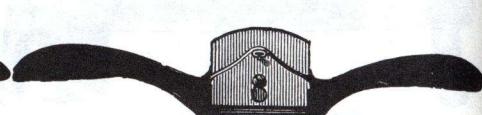
Cast Steel Cutter	Each
No. 181—3 in. Cut; 11 in. Long; Weight $\frac{1}{2}$ Lb. Each	.40
No. 182—3 $\frac{1}{2}$ in. Cut; 12 in. Long; Weight $\frac{1}{2}$ Lb. Each	.50



## CHAMFER

The Sliding Gauges can be set to cut a Chamfer on the edge of a board of any desired width. Also used as an ordinary Spoke Shave.

Each
No. 65—1 $\frac{1}{2}$ in. Cut, Polished Blade; Japanned Iron Frame and Handle; Length 9 $\frac{1}{2}$ in.....\$0.50 Weight $\frac{1}{2}$ Lb. Each



## DOUBLE IRON

Each
No. 51—2 $\frac{1}{2}$ in. Cut, Japanned Raised Handles; Length 10 in.....\$0.25 Weight $\frac{2}{3}$ Lb. Each



## DOUBLE IRON

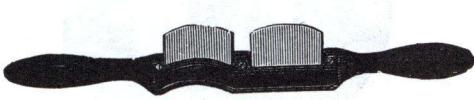
Each
No. 52—2 $\frac{1}{2}$ in. Cut; Japanned, Straight Handles; 10 in. Long.....\$0.25 Weight $\frac{1}{4}$ Lb. Each



## COMMON

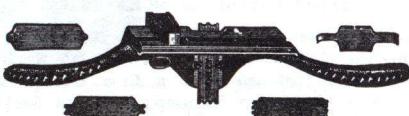
Each
No. 64—1 $\frac{1}{2}$ in. Cut; Japanned; Straight Handles; Length 9 in.....\$0.20 Weight $\frac{1}{2}$ Lb. Each

## HAND BEADERS



## DOUBLE CUTTER

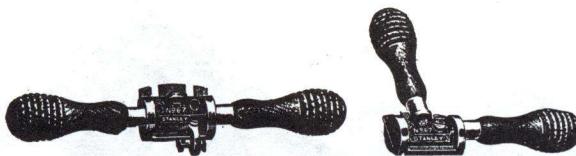
Each
No. 60—1 $\frac{1}{2}$ in. Cut; Polished, Hollow for Round Surfaces and Straight for Flat; Ja- panned Iron Frame and Handles; 10 $\frac{1}{2}$ in. Long .....\$3.50 Weight $\frac{1}{4}$ Lb. Each



## UNIVERSAL

For Beading, Reeding or Fluting Straight or Irregular Surfaces and for Light Routering; complete with 7 steel cutters, sharpened at both ends, thus embracing Six Sizes of Beads, Four Sets of Reeds, Two Fluters and Double Router Iron ( $\frac{1}{8}$ and $\frac{1}{4}$ in.). Each
No. 66—Nickel Plated Iron Stock; 11 $\frac{1}{2}$ in. Long .....\$1.00 Weight 1 $\frac{1}{4}$ Lbs. Each

## SPOKE SHAVES



## UNIVERSAL

Two detachable bottoms, adapting it to circular or straight work; and by means of a movable width gauge, the tool can be used in rabbeting. Either Handle can be screwed into a Socket on top of the Stock, to work into corners, or panels.

Each  
\$1.50

No. 67—2 in. Cut; Nickel Plated, Rosewood Handles; Length 9 in.

One in a Box; Weight 13 Oz. Each



## UNIVERSAL

For all work that can be done with an ordinary Spoke Shave, while its Flexible Spring Bottom allows it to cut either on the inside or outside of a circle in the same manner as a spring bottom, circular plane. The depth of cut is regulated by the adjusting screw. The cap which sets over the Knife has a curved edge for cross-grained wood, to exclude shavings. Cuts equally well on either Flat, Concave or Convex Surfaces.

Each  
\$1.25

No. 13—2½ in. Cut; Japanned Iron Frame and Handles; Length 9½ in., Width 2½ in., Polished

Tool Steel Blade ..... Weight 1 Lb. Each



## BOXWOOD HANDLES

The Blade is hollow ground, giving a keen cutting edge. The Adjustable Front can be moved up or down, opening or closing the Mouth for Coarse or Fine Work. The Blades lying nearly flat, adapts it to cutting across the grain very easily; Polished Tool Steel Blade.

Each  
\$.85  
.95

No. 84—2 in. Cut; 11 in. Long; Weight 5 Oz. Each.

No. 85—2½ in. Cut; 12 in. Long; Weight 6 Oz. Each.



## JAPANNED IRON HANDLES

The Blade is hollow ground, giving a keen cutting edge. The Adjustable Front can be moved up or down, opening or closing the Mouth for Coarse or Fine Work. The Blades lying nearly flat, adapts it to cutting across the grain very easily; Polished Tool Steel Blade.

Each  
\$.75  
.85

No. 72—2 in. Cut; 11 in. Long; Weight 12 Oz. Each.

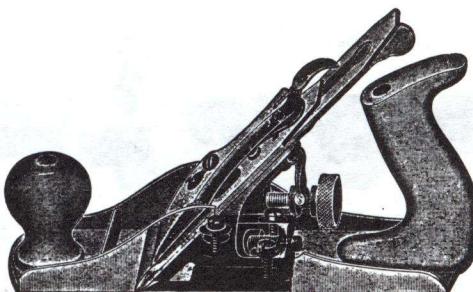
No. 73—2½ in. Cut; 11 in. Long; Weight 15 Oz. Each.

## ZENITH PLANES

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## • Cut Shows Patent Frog, Adjustable without Removing Cutter

All material used in the manufacture of Zenith Planes is of unquestionable excellence. This, together with high grade, expert workmanship and faultlessness of design make Zenith Planes perfect Planes.

The Plane Irons or Cutters are of the best Imported Sheffield Steel; high grade in quality and fine in texture, Hardened to a perfect degree of Temper. Each Cutter Edge is tested before being assembled, with a case hardened tool which is passed over it. Should the edge chip off or break it is discarded as too hard. If it fails to spring back, it is too soft. Castings are uniform in quality of material, smooth in finish, and without blow holes or flaws of any kind.

The Frog Seats on the body Castings are milled, as is also the bottom of the Frog. The Frog sets evenly and tightly in place. The Face of the Frog is milled, that the plane iron or cutter may be in contact with every point of the bearing surface at all times. With the cutter in place, though not tightened down, a sheet of tissue paper cannot be introduced, at any point, between it and the Face of the Frog.

All Castings are smoothed off and when not Japanned are Machine Finished and Polished.

The Lateral Adjustment Levers, which are found on all Bench Planes, are of Cold Rolled Steel, blanked out of a single piece, and die stamped to shape. They will not become bent or broken.

The Knuckle Joints on the so-called Knuckle Joint Planes are of Heavy Wrought Steel, made to withstand hard usage and heavy work without breaking or cracking. This part is heavily nickel plated and excellent in design. It is easily and quickly adjusted.

A Novel and Distinctive Feature of much importance to be found on Zenith Planes is the Eccentric Adjusting Device of the Adjustable Throat Plane. This device gives a positive ad-

justment to the mouth-piece. It consists of a Cast Eccentric Fitting over a Threaded Stud (attached to the mouth-piece), and held in place by the Thumb Nut of the Stud. In operation this is very simple, as it merely entails loosening the Thumb Nut and, with a slight twist of the eccentric, swinging the Throat Piece up or down to the exact position desired. When the Thumb Nut is tightened the mouth-piece is positively locked in position.

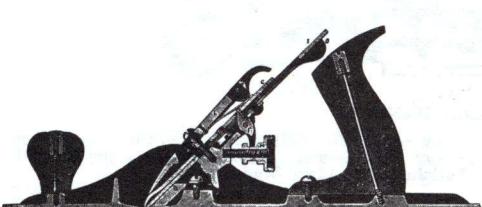
These are some of the things which go to make the Long Life and Perfect Working Qualities peculiar to Zenith Planes.

Then, too, the Mouth Piece of these Planes when opened to its fullest extent does not extend beyond the framework and cannot be driven back against the Cutter Edge by a sudden blow or through being dropped. The Eccentric Adjustment also safeguards against accidents of this sort.

The screw control of the up and down adjustment is a detail which shows with what thought these Planes are designed. It is composed of two parts, steel in the threaded portion where the wear comes and brass at the head where the moisture of the hands would rust steel.

The quarter-sawed, weather dried, Beech Wood used in all wood bottom Zenith Planes is carefully selected and weather dried for at least three years before being cut into blocks. It is also kiln dried for months until every possibility of a warp, crack or flaw of any kind showing up is removed. The stock is quarter-sawed to give a clean straight grain running the length of the block and parallel to the direction of the tool cut. This also gives a perfect wearing surface to the bottom.

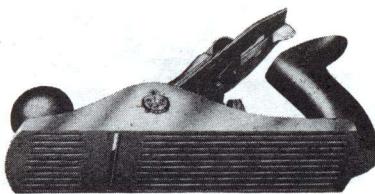
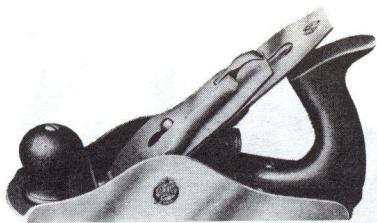
All Handles and Thumb Knobs on the Iron Planes are of selected East Indian Mahogany, making these parts an unusually durable and attractive feature of the Zenith Planes.



Showing Details of Zenith Planes

(I) Plane Iron, made of best double refined English Steel; (C) Steel Cap adjusted by Screw (S) to Plane Iron and held firmly in place by depressing Cam Thumb Piece (T) on Lever (L). The thickness of the shaving is regulated by a turn of the Thumb Nut (N) acting through the Forked Lever (F). The cutting edge of the Plane Iron is accurately adjusted to the face of the Plane by means of the One Piece Stamped Steel Lever (O). The Bed Piece (B) can be moved backward or forward to increase or decrease the mouth opening and is locked in place by the Screw (W).

## ZENITH IRON PLANES



With Patent Adjustable Frog

## SMOOTH BOTTOM

	Each
No. Z602 — 7 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 2 $\frac{1}{2}$ Lbs.	\$2.00
No. Z603 — 8 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 3 Lbs.	2.25
No. Z604 — 9 in. Long; 2 in. Cut; Weight 3 $\frac{1}{2}$ Lbs.	2.50
No. Z604 $\frac{1}{2}$ — 10 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	2.75

## CORRUGATED BOTTOM

	Each
No. Z602C — 7 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 2 $\frac{1}{2}$ Lbs.	\$2.00
No. Z603C — 8 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 3 $\frac{1}{2}$ Lbs.	2.25
No. Z604C — 9 in. Long; 2 in. Cut; Weight 3 $\frac{1}{2}$ Lbs.	2.50
No. Z604 $\frac{1}{2}$ C — 10 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	2.75

Without Patent

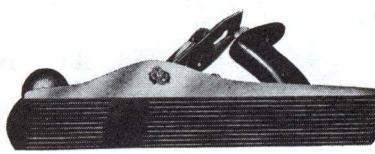
## SMOOTH BOTTOM

	Each
No. Z2 — 7 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 2 $\frac{1}{2}$ Lbs.	\$1.65
No. Z3 — 8 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 3 Lbs.	1.80
No. Z4 — 9 in. Long; 2 in. Cut; Weight 3 $\frac{1}{2}$ Lbs.	1.95
No. Z4 $\frac{1}{2}$ — 10 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	2.25

## Adjustable Frog

## CORRUGATED BOTTOM

	Each
No. Z2C — 7 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 2 $\frac{1}{2}$ Lbs.	\$1.65
No. Z3C — 8 in. Long; 1 $\frac{1}{2}$ in. Cut; Weight 3 $\frac{1}{2}$ Lbs.	1.80
No. Z4C — 9 in. Long; 2 in. Cut; Weight 3 $\frac{1}{2}$ Lbs.	1.95
No. Z4 $\frac{1}{2}$ C — 10 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	2.25



With Patent Adjustable Frog

## SMOOTH BOTTOM

	Each
No. Z605 — Jack; 14 in. Long; 2 in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	\$2.75
No. Z605 $\frac{1}{2}$ — Jack; 15 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 5 $\frac{1}{2}$ Lbs.	3.00
No. Z606 — Fore; 18 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 7 Lbs.	3.50
No. Z607 — Jointer; 22 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 8 $\frac{1}{2}$ Lbs.	4.00
No. Z608 — Jointer; 24 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 10 Lbs.	5.00

## CORRUGATED BOTTOM

	Each
No. Z605C — Jack; 14 in. Long; 2 in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	\$2.75
No. Z605 $\frac{1}{2}$ C — Jack; 15 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 5 $\frac{1}{2}$ Lbs.	3.00
No. Z606Z — Fore; 18 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 7 Lbs.	3.50
No. Z607C — Jointer; 22 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 8 $\frac{1}{2}$ Lbs.	4.00
No. Z608C — Jointer; 24 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 10 Lbs.	5.00

Without Patent Adjustable Frog

## SMOOTH BOTTOM

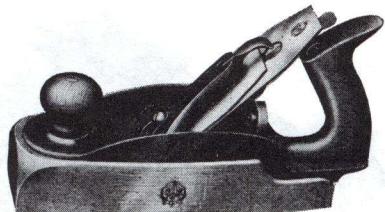
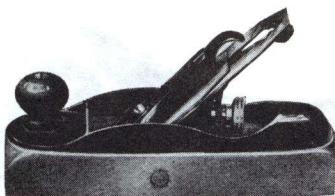
	Each
No. Z5 — Jack; 14 in. Long; 2 in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	\$2.50
No. Z5 $\frac{1}{2}$ — Jack; 15 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 5 $\frac{1}{2}$ Lbs.	2.75
No. Z6 — Fore; 18 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 7 Lbs.	3.00
No. Z7 — Jointer; 22 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 8 $\frac{1}{2}$ Lbs.	3.25
No. Z8 — Jointer; 24 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 10 Lbs.	4.00

## CORRUGATED BOTTOM

	Each
No. Z5C — Jack; 14 in. Long; 2 in. Cut; Weight 4 $\frac{1}{2}$ Lbs.	\$2.50
No. Z5 $\frac{1}{2}$ C — Jack; 15 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 5 $\frac{1}{2}$ Lbs.	2.75
No. Z6C — Fore; 18 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 7 Lbs.	3.00
No. Z7C — Jointer; 22 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 8 $\frac{1}{2}$ Lbs.	3.25
No. Z8C — Jointer; 24 in. Long; 2 $\frac{1}{2}$ in. Cut; Weight 10 Lbs.	4.00

All Above One in a Box

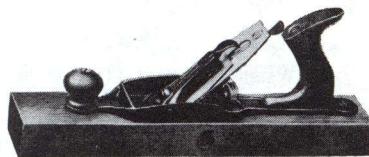
## ZENITH WOOD BOTTOM PLANES



SMOOTH, WITHOUT HANDLE		Each
Z21—7 in. Long; 1 $\frac{1}{4}$ in. Cut; Wt. 2 $\frac{1}{2}$ Lbs.		\$1.20
Z22—8 in. Long; 1 $\frac{1}{4}$ in. Cut; Wt. 2 $\frac{1}{2}$ Lbs.		1.20
Z23—9 in. Long; 1 $\frac{1}{4}$ in. Cut; Wt. 2 $\frac{1}{2}$ Lbs.		1.20
Z24—8 in. Long; 2 in. Cut; Wt. 3 Lbs.		1.20

## HANDLED SMOOTH

No.	Each
Z35—9 in. Long; 2 in. Cut; Wt. 3 $\frac{1}{2}$ Lbs.	\$1.50
Z36—10 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 4 Lbs.	1.65



## JACK AND FORE

		Each
No. Z26—Jack; 15 in. Long; 2 in. Cut; Wt. 4 Lbs.		\$1.35
No. Z27—Jack; 15 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 4 $\frac{1}{2}$ Lbs.		1.50
No. Z28—Fore; 18 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 5 $\frac{1}{2}$ Lbs.		1.65
No. Z29—Fore; 20 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 5 $\frac{1}{2}$ Lbs.		1.65

## JOINTER

No.	Each
No. Z30—22 in. Long; 2 $\frac{1}{2}$ in. Long; Wt. 6 Lbs.	\$1.80
No. Z31—24 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 6 $\frac{1}{2}$ Lbs.	1.80
No. Z32—26 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 7 $\frac{1}{2}$ Lbs.	1.95
No. Z33—28 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 7 $\frac{1}{2}$ Lbs.	2.00
No. Z34—30 in. Long; 2 $\frac{1}{2}$ in. Cut; Wt. 9 Lbs.	2.15

## ZENITH BLOCK PLANES

ADJUSTABLE, ROSEWOOD HANDLE  
Polished Bottom and Sides, Japanned Inside; Brass Adjusting Screws



## LOW ANGLE, WITH NICKEL PLATED TRIMMINGS

No.	Each
Z60—6 in. Long; 1 $\frac{1}{2}$ in. Cut; Wt. 1 $\frac{1}{2}$ Lbs.	\$1.15
Z65—7 in. Long; 1 $\frac{1}{2}$ in. Cut; Wt. 2 Lbs.	1.25

## NICKEL PLATED TRIMMINGS

No.	Each
Z16—6 in. Long; 1 $\frac{1}{2}$ in. Cut; Wt. 1 $\frac{1}{2}$ Lbs.	\$1.15
Z17—7 in. Long; 1 $\frac{1}{2}$ in. Cut; Wt. 2 Lbs.	1.15



## ADJUSTABLE

Has a Wheel instead of a Cam in the Lever  
Each  
No. Z102—5 $\frac{1}{2}$  in. Long; 1 $\frac{1}{2}$  in. Cut; Bottom is  
Polished, Balance Japanned.....\$0.35  
Weight 1 Lb. Each

## NON-ADJUSTABLE

A Small, Well-Made Plane used by Toy Dealers,  
Makers of Boys' Tool Chests, Etc. Each  
No. Z100—3 $\frac{1}{2}$  in. Long; 1 in. Cut; Polished  
Bottom, Balance is Japanned.....\$0.20  
Weight  $\frac{1}{4}$  Lb. Each

## ZENITH BLOCK PLANES

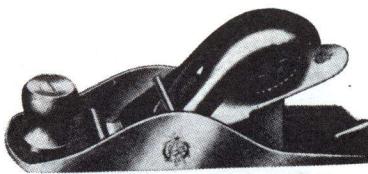


## ADJUSTABLE

Each

No. Z103—5½ in. Long; 1½ in. Cut; Polished Bottom, Balance Japanned; Brass Adjusting Screw ..... \$0.50

Weight 1 Lb. Each



## NON-ADJUSTABLE

Has a Wheel instead of a Cam in the Lever

Each

No. Z110—7 in. Long; 1½ in. Cut; Polished Bottom and Sides, Japanned Inside and Cap; Rosewood Knob ..... \$0.50

Weight 1½ Lbs. Each



## ROSEWOOD HANDLE

## ADJUSTABLE

Outside of Body is Polished; Cap and inside Japanned; Brass Adjusting Screws

No. Z 93—6 in. Long; 1½ in. Cut; Wt. 1½ Lbs..... \$1.25  
Z152—7 in. Long; 1½ in. Cut; Wt. 2 Lbs..... 1.35



## KNUCKLE JOINT

Outside of Body is Polished, Inside is Japanned; Polished Steel Adjusting Screws; Nickel Plated Trimmings; Shaped to Fit the Hand.

No. Z18—6 in. Long; 1½ in. Cut; Wt. 1½ Lbs..... \$1.25  
Z19—7 in. Long; 1½ in. Cut; Wt. 2 Lbs..... 1.35

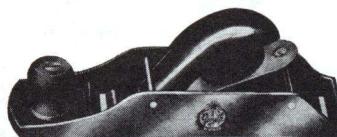


Polished Bottom and Sides, Japanned Inside and Cap

## ADJUSTABLE

With Polished Trimmings; Brass Adjusting Screws

No. Z93—6 in. Long; 1½ in. Cut; Wt. 1½ Lbs..... \$1.00  
Z15—7 in. Long; 1½ in. Cut; Wt. 1½ Lbs..... 1.15

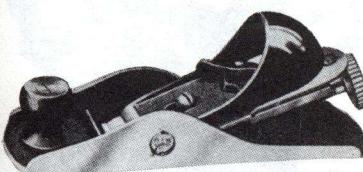


## DOUBLE ENDER

Polished Rosewood Knob; Shaped to Fit Hand

Each  
No. Z130—8 in. Long; 1½ in. Cut; Two Slots and Two Cutter Seats; by putting the Cutter in the End Slot it is used to work into close corners, etc..... \$0.65

Weight 1½ Lbs. Each



## ADJUSTABLE

Polished Bottom and Sides; Inside and Cap Japanned; Polished Rosewood Knob; Shaped to fit the hand

No. Z220—Screw Adjustment; 7 in. Long; 1½ in. Cut ..... \$0.70

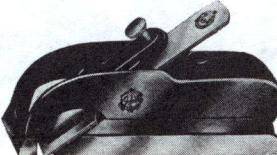
Weight 1½ Lbs. Each



No. Z207—Lever Adjustment; 7 in. Long; 1½ in. Cut ..... \$0.70

Weight 1½ Lbs. Each

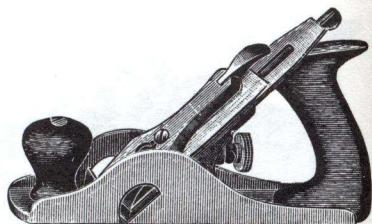
## ZENITH PLANES



## BULL NOSE RABBET

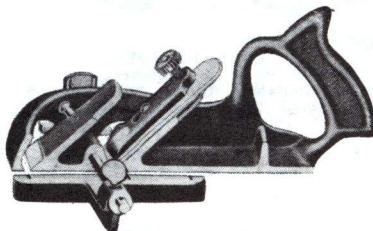
For Working Close to a Corner

No.	Each
Z75—4 in. Long; 1 in. Cut; Japanned, Iron Stock; Polished Steel Adjusting Screw	\$.40
Weight $\frac{1}{2}$ Lb. Each	



## CARRIAGE MAKERS' RABBET

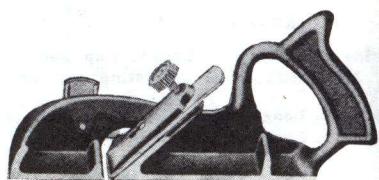
With Patent Side Adjustment for exact Adjusting of the cutter with the face of the Plane; Polished Trimmings; East India Mahogany Handle and Knob; Corrugated Bottom. No.	Each
Z101C—9 in. Long; 2 $\frac{1}{2}$ in. Cutter; Wt. 3 $\frac{1}{2}$ Lbs.	\$.00
Z10C—13 in. Long; 2 $\frac{1}{2}$ in. Cutter; Wt. 4 $\frac{1}{2}$ Lbs.	3.25



## RABBET AND FILLETSTER

By inserting cutter in forward seat, it can be used as a Bull Nose Rabbet; the arm is reversible and can be used on either side of the Plane.

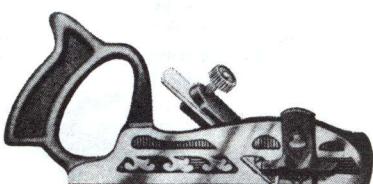
No. Z78—Japanned, Iron Stock and Fence, 8 $\frac{1}{2}$ in. Long; 1 $\frac{1}{2}$ in. Cut	\$.50
Weight 3 $\frac{1}{2}$ Lbs. Each	



## RABBET

With Depth Gauge; will be flat on either Side; can be used with right or left hand; Japanned Finish.

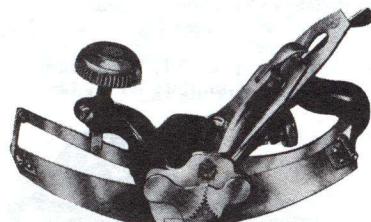
No. Z182—8 in. Long, 1 in. Cutter	\$.25
No. Z181—8 in. Long, 1 $\frac{1}{2}$ in. Cutter	1.25
No. Z180—8 in. Long, 2 in. Cutter	1.25

Average Weight 2 $\frac{1}{2}$  Lbs. Each

## RABBET

With Depth Gauge and Spur; Fitted with Spur when Working across Grain; Japanned Finish.

No. Z192—8 in. Long, 1 in. Cutter	\$.35
No. Z191—8 in. Long, 1 $\frac{1}{2}$ in. Cutter	1.35
No. Z190—8 in. Long, 2 in. Cutter	1.35

Average Weight 2 $\frac{1}{2}$  Lbs. Each

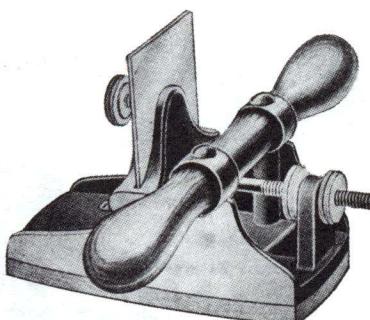
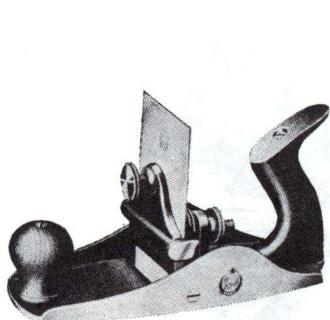
## IMPROVED CIRCULAR

Has Flexible Steel Face, which can be shaped to any arc, either convex or concave, for planing over rounded or hollowed surfaces.

No. Z113—10 $\frac{1}{2}$ in. Long; 1 $\frac{1}{2}$ in. Cut; Japanned Body and Handle; Polished Face; Nickel Plated Adjustable Knob; Brass Set Screw	\$.00
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Weight 4 Lbs. Each

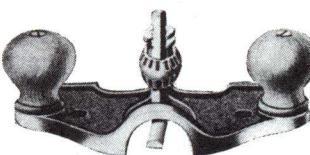
## ZENITH PLANES



## VENEER SCRAPERS

For Scraping and Finishing Veneers or Cabinet Work, Removing Old Paint, Glue, etc.

No. Z112—9 in. Long; 3 in. Cutter; Polished Bottom, Sides and Trimmings, Japanned Inside; Polished Rosewood Handle and Knob	Each \$2.50	Polished Finish, Double Cocobolo Handle; the Wood Face Plane is particularly adapted for Stair Makers' and Floor Finishers' Use.	Each \$2.50
Weight 4½ Lbs. Each		Average Weight 3½ Lbs. Each	



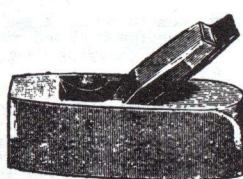
## ROUTER

Have Screw Adjustment; Nickel Plated Finish, Wood Handles; Each Complete with Two Cutters  $\frac{3}{8}$  and  $\frac{1}{2}$  in.; Used for routing mortises, Planing in Corners, Smoothing Bottoms of Grooves, Etc.

No. Z71½—Closed Throat; Length 8 in.; Wt. 2 Lbs. Each	Each \$1.35	No. Z71—Open Throat; Length 8 in.; Allows Shavings to Clear more readily; Wt. 2½ Lbs. Each	Each \$1.75
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All Above Planes, One in a Box

## COMMON PLANES



## DOUBLE IRONS, BLACK START

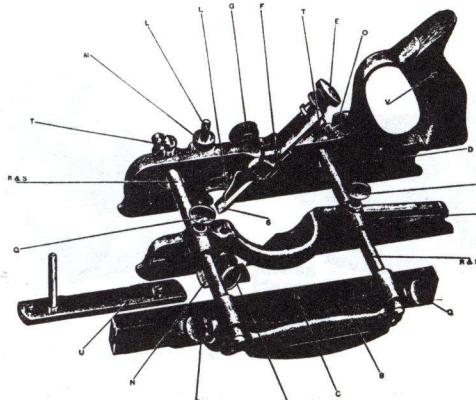
## SMOOTH

No. 3W—8 in. Long, Assorted 2, 2½ and 2¾ in. Cut	Each \$0.90
Average Weight 2 Lbs. Each	

## JACK

No. 15W—16 in. Long, Assorted 2, 2½, and 2¾ in. Cut	Each \$1.00
Average Weight 4½ Lbs. Each	

## ZENITH COMBINATION PLANES

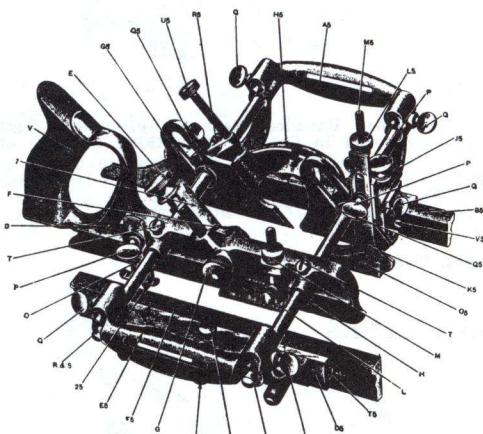


ZENITH; 25 CUTTERS

No. Z45—Combination Plane; Complete with 25 Cutters; For Dadoing, Rabbeting, Tonguing and Grooving, Beading, Slitting and Sash Cutting; Can also be used as a Filletster; Weight of Plane only  $7\frac{1}{2}$  Lbs. Each.....\$7.50

Each Plane in a Carrying Case, shown below

Shipping Weight  $10\frac{1}{2}$  Lbs. Each



Wooden Box in which these Planes are Packed, showing it closed and in use as a Carrying Case

ZENITH; 54 CUTTERS

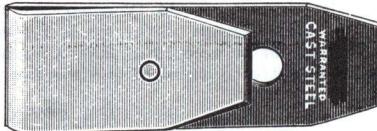
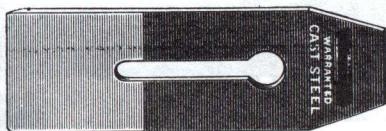
No. Z55—Combination Plane; Complete with 54 Cutters; This Plane contains all the Cutters supplied with the No. Z45 except the Fence and Movable Bed, which are not required as a Fence and Bed with a greater variety of adjustments is supplied; For Dadoing, Rabbeting, Tonguing and Grooving, Beading, Slitting and Sash Cutting; May also be used as a Filletster or Reeding Plane and is adapted for Matching, Making Hollows and Rounds and a variety of Mouldings including Ogee, Roman, and Grecian Reverse and Quarter Round with Bead; Weight of Plane Only  $12\frac{1}{2}$  Lbs. Each.....\$15.00

Each Plane in a Carrying Case, shown above

Shipping Weight  $15\frac{1}{2}$  Lbs. Each

## PLANE PARTS

In Ordering Plane Irons for any Plane, please state the Number of Plane for which wanted



## ZENITH, FOR IRON AND WOOD PLANES

## Imported Knife Steel, Polished; Perfectly Tempered, Ground and Honed

## No. Z1—SINGLE OR CUT IRONS

Cut, Inches	1 $\frac{1}{8}$	1 $\frac{1}{4}$	2	2 $\frac{1}{4}$	2 $\frac{3}{4}$	2 $\frac{5}{8}$	3	3 $\frac{1}{4}$	3 $\frac{3}{4}$	4	4 $\frac{1}{4}$	4 $\frac{3}{4}$	5	5 $\frac{1}{4}$
Weight Each, Lbs.	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Each	\$0.20	.25	.25	.30	.30	.35								

## No. Z2—DOUBLE IRONS

Cut, Inches	1 $\frac{1}{8}$	1 $\frac{1}{4}$	2	2 $\frac{1}{4}$	2 $\frac{3}{4}$	2 $\frac{5}{8}$	3	3 $\frac{1}{4}$	3 $\frac{3}{4}$	4	4 $\frac{1}{4}$	4 $\frac{3}{4}$	5	5 $\frac{1}{4}$
Weight Each, Lbs.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Each	\$0.35	.35	.40	.45	.45	.50								

## PLANE HANDLES



BAILEY Each  
No. 11—Rosewood, Fits Bailey All Iron Planes from  
No. 4 $\frac{1}{2}$  to 8. .... \$0.25  
No. 11W—Beechwood, Varnished; Fits Bailey Wood Bottom Planes, No. 26 to  
34 ..... 15  
Weight 3 Oz. Each



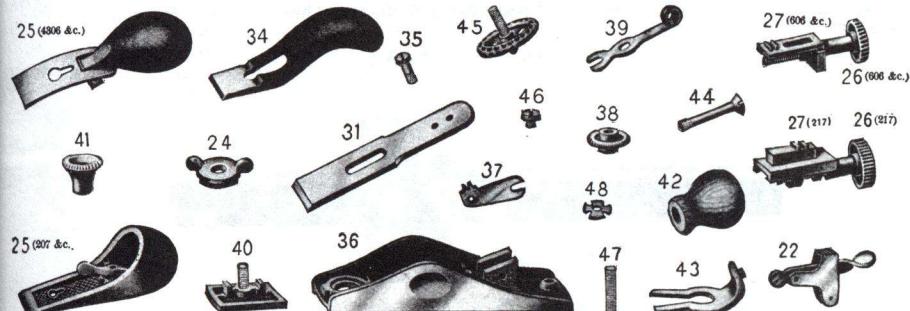
Plain Beechwood



JACK Each  
No. 10—For Wood Jack Planes; Wt.  $\frac{1}{2}$  Lb. Each. \$0.10

FORE AND JOINTER Each  
No. 12—For Wood Fore and Jointer Planes ..... \$0.10  
Weight  $\frac{1}{3}$  Lb. Each

## ZENITH PLANE PARTS



## FOR BENCH PLANES

Part Nos.	10—Frog Screw
1—Single Steel Cutter	11—Handle
2—Cap for Steel Cutter	12—Knob
1 & 2—Double Steel Cutter	13—Handle Bolt
3—Cap Screw	14—Knob Bolt
4—Clamp (Iron)	15—Handle Screw
5—Clamp Screw	16—Bottom (Iron)
6—Frog Complete	17—Bottom (Wood)
7—Fork Adjustment	18—Top Casing (Wood)
8—Brass Adjusting Nut	19—Adjusting Screw
9—Lateral Adjustment	(Iron)

## FOR BLOCK AND MISCELLANEOUS PLANES

Part Nos.	39—Lateral Adjustment
18—Top Casting	40—Mouth Piece
22—Adjusting Lever	41—Knob
24—Cam	42—Knob Handle
25—Clamp	43—Handle Casting
26—Adjusting Screw	44—Handle Screw
27—Slide	45—Wheel
31—Steel Cutter	46—Fillister Head
34—Clamp	Screw
35—Clamp Screw	47—Headless Machine
36—Bottom	Screw
37—Adjusting Lever	48—Cog Nut
38—Adjusting Nut	

In Ordering, give Make of Plane, its Number or Kind, Length, and the Number of Part wanted

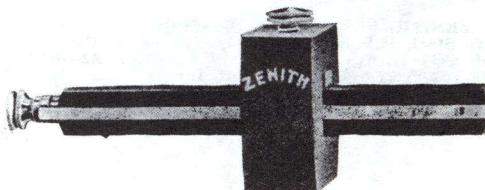
## ZENITH MARKING AND MORTISE GAUGES

Used by Carpenters and Woodworkers for Gauging Lines from the Edge of a Board; the Mortise or Double Gauge Marks the Exact Width of Mortise before Cutting; Zenith Gauges are especially popular on account of their accuracy and the careful manner in which they are made; every part is perfectly finished and there is no sticking or binding of Slides.

Unconditionally



Guaranteed



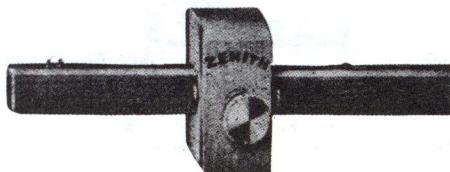
Unconditionally



Guaranteed

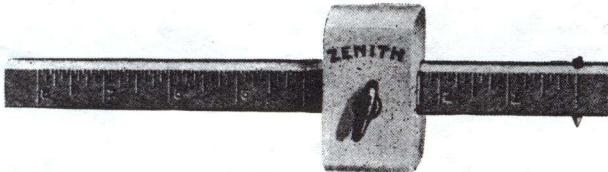
## ZENITH

No. Z92—Rosewood; Brass Slide Thumb Screws; Length Over-all 7 $\frac{1}{2}$  in..... Each \$1.00  
Weight 1 Lb. Each



## ZENITH

No. Z89 $\frac{1}{2}$ —Boxwood, Polished; Graduated Stem; Brass Slide and Thumb Screw; Marked Black Figures and Scale; Length 6 $\frac{1}{2}$  in., with 6 in. Scale..... Each \$0.75  
Weight 3 Oz. Each



## ZENITH

No. Z77—Beechwood, Oval Bar; Plated Head; Black Japanned Thumb Screw; Marked Black Figures and Scale; Length 9 in., with 8 in. Scale; Steel Point..... Each \$0.20  
Weight 3 Oz. Each

No. Z84—Boxwood, Cutting; Oval Bar; Plated Head; Black Japanned Thumb Screw; without Scale or Figures; Length 9 in.; Steel Cutter..... Each .50  
Weight 5 Oz. Each

No. Z76—Beechwood, Oval Bar; Black Japanned Thumb Screw; Marked Black Figures and Scale; Length 9 in., with 8 in. Scale; Steel Point..... Each .10  
Weight 3 Oz. Each

## ZENITH TAKE DOWN AND RAFTER STEEL SQUARES



## ZENITH TAKE-DOWN SQUARES

A Square which can be readily disjointed, carried or packed in Tool Chest, Case or Bag. Should be added to the Kit of every mechanic who goes out on a job.

This Take-Down Square has no Screws, is easily put together and instantly taken apart. Each time the Square is taken apart and put together, the wear produces a firmer joint, thereby insuring constant accuracy. It occupies smaller space than any other Take-Down Square. Each Square in Black Enamelled Canvas Case. **Rafter Markings** on No. 100.

Royal Copper Finish is almost the same as Dark Red in Color.

Nos.	Finish	Size Body, In.	Size Tongue, In.	Face Marked, In.	Back Marked, In.	Each
100RC	Royal Copper	24x2	16x1½	1/16, 1/8	1/32, 1/12, 1/10	\$3.25
100RN	Nickel Plated	24x2	16x1½	1/16, 1/8	1/32, 1/12, 1/10	3.00

One in a Black Enamelled Canvas Case; Weight 3½ Lbs. Each



Face Side Showing Common Roof Framing Rule

## ZENITH FRAMING SQUARES

Gives length of Common Rafters from 2 to 18 in. Rise per foot; Length of Hip or Valley Rafters, etc., Jack Rafters, spaced 16 or 24 in. Centers; side cut of Hip or Valley Rafters; cut of Cornice or Planer Boards; cut of Sheeting in Valley or Hip; cuts of all parts of roof exact.

## POLISHED STEEL FINISH

Nos.	100A FP	100F P
Size Body	24x2	24x2
Size Tongue	16x1½	16x1½
Face Marked	1/16, 1/8	1/16, 1/8
Back Marked	1/32, 1/12, 1/10	1/32, 1/12, 1/10
Each	\$1.50	1.35

## OLD COPPER, BLACK FINISHED, WHITE LETTERS

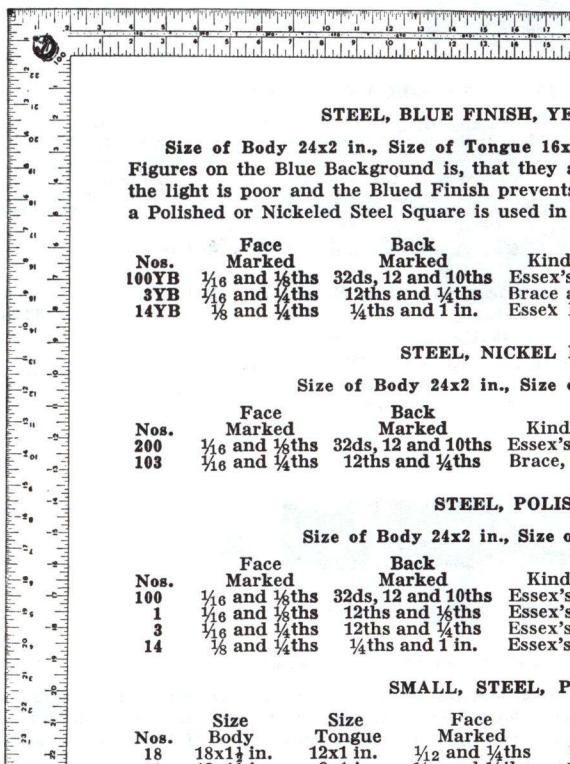
Nos.	100A FC	100F C	3FC
Size Body	24x2	24x2	24x2
Size Tongue	16x1½	16x1½	16x1½
Face Marked	1/16, 1/8	1/16, 1/8	1/16, 1/8
Back Marked	1/32, 1/12, 1/10	1/32, 1/12, 1/10	1/12, 1/4
Each	\$2.00	1.75	1.50

Weight 2½ Lbs. Each

See next page for more complete description and, Graduation, etc.

## ZENITH STEEL AND IRON SQUARES

Zenith Squares have Extra Hardened Corners and Ends



## STEEL, BLUE FINISH, YELLOW FIGURES

Size of Body 24x2 in., Size of Tongue 16x1½ in.; The advantage of the Yellow Figures on the Blue Background is, that they are more easily read, in places where the light is poor and the Blued Finish prevents the blinding effect, noticeable when a Polished or Nickeled Steel Square is used in the Sunlight.

Nos.	Face		Back		Kinds of Measure	Wt. Each	Lbs. Each
	Marked	Marked	Marked	Marked			
100YB	1/16 and 1/16ths	32ds, 12 and 10ths	Essex's Board, 8 Sq., Brace 1-100..	2	\$1.50		
3YB	1/16 and 1/16ths	12ths and 1/4ths	Brace and Essex's Board.....	2 1/4	1.35		
14YB	1/8 and 1/4ths	1/4ths and 1 in.	Essex Board .....	2 1/4	1.25		

## STEEL, NICKEL PLATED

Size of Body 24x2 in., Size of Tongue 16x1½ in.

Nos.	Face		Back		Kinds of Measure	Wt. Each	Lbs. Each
	Marked	Marked	Marked	Marked			
200	1/16 and 1/16ths	32ds, 12 and 10ths	Essex's Board, 8 Sq., Brace 1-100..	2 1/4	\$1.50		
103	1/16 and 1/4ths	12ths and 1/4ths	Brace, Essex's Board.....	2 1/4	1.25		

## STEEL, POLISHED

Size of Body 24x2 in., Size of Tongue 16x1½ in.

Nos.	Face		Back		Kinds of Measure	Wt. Each	Lbs. Each
	Marked	Marked	Marked	Marked			
100	1/16 and 1/16ths	32ds, 12 and 10ths	Essex's Board, 8 Sq., Brace 1-100..	2	\$1.00		
1	1/16 and 1/16ths	12ths and 1/8ths	Essex's Board, 8 Sq., Brace 1-100..	2 1/4	.90		
3	1/16 and 1/4ths	12ths and 1/4ths	Essex's Board, Brace.....	2 1/4	.85		
14	1/8 and 1/4ths	1/4ths and 1 in.	Essex's Board .....	2 1/3	.75		

## SMALL, STEEL, POLISHED

Nos.	Size	Size	Face	Back	Wt. Each	Lbs. Each
	Body	Tongue	Marked	Marked		
18	18x1½ in.	12x1 in.	1/2 and 1/4ths	1/16, 1/8 and 1/4ths	1 1/4	\$0.80
12	12x1½ in.	8x1 in.	1/16 and 1/8ths	12ths and 1/8ths.....	3/4	.65

## IRON, POLISHED

Nos.	Size	Size	Face	Back	Wt. Each	Lbs. Each
	Body	Tongue	Marked	Marked		
21	24x1½ in.	12x1 in.	1/16 and 1/4ths	1/8 and 1/4ths.....	1 1/4	\$0.25
24	24x2 in.	12x1½ in.	1/8 and 1/4ths	1/8 and 1/4ths.....	2	.40

## HANDY STEEL SQUARES

No. 127—1 in. Wide, 1/16 in. Thick, Nickel Plated Steel; Body 12 in. Long, Tongue 7 in. Long; Graduated both sides in 1/16ths in.; Weight 1/8 Lb. Each.....	\$0.15	Each

## MANUAL TRAINING SQUARES

No. 128—Body 6 in. Long, Tongue 6 in. Long, otherwise same as No. 127; Weight 2 1/4 Oz. Each.....	\$0.15	Each

The Board Measure is on the eight parallel lines on one side of blade.

The Brace Measure is along the center of the back of the tongue.

The Eight Square Measure is in the middle of the face of the tongue.

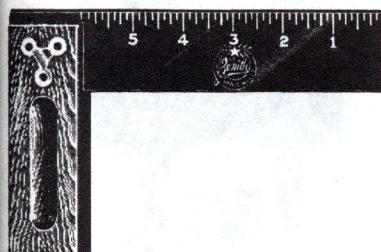
The Board Measure determines the number of board feet in a board, plank or scantling.

The Brace Measure gives the length of timber required to brace a certain corner or angle.

The Eight Square gives the scale to lay off the end of a square timber, to trim it to octagon shape.

## ZENITH TRY SQUARES

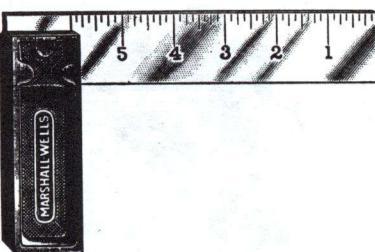
With Spring Steel Blades



No. Z20—ROSEWOOD HANDLE

Brass Face Plate, Attached and Rigidly held in position with Screws; Blued Steel Blades Fastened with Steel Rivets passing through Brass Plates on both sides; Graduated in  $\frac{1}{8}$ th inches.

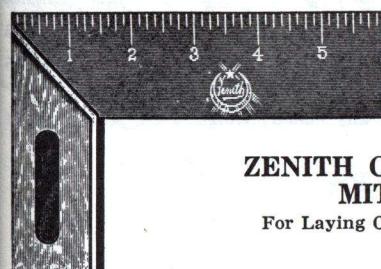
Length Blade, In.	6	7 $\frac{1}{2}$	9	10	12
Width Blade, In.	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
Length Handle, In.	4 $\frac{1}{2}$	5 $\frac{1}{4}$	6	6	7
Weight Each, Oz.	5 $\frac{1}{4}$	7	8 $\frac{1}{2}$	9	12
Each	\$0.30	.35	.40	.50	.60



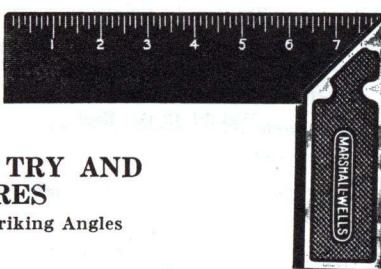
No. Z12—NICKEL PLATED IRON HANDLE

Polished Steel Blade, Strongly Riveted; Graduated in  $\frac{1}{8}$ th inches; Square Inside and Out.

Length Blade, In.	6	8
Width Blade, In.	1 $\frac{1}{8}$	1 $\frac{1}{4}$
Length Handle, In.	4 $\frac{1}{2}$	5 $\frac{1}{4}$
Weight Each, Oz.	8	10
Each	\$0.35	.50

ZENITH COMBINED TRY AND  
MITER SQUARES

For Laying Out Work and Striking Angles

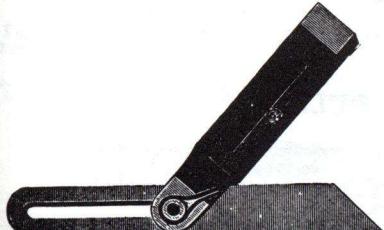


No. Z2—Rosewood Handle, Brass Face Plate; Blued Spring Steel Blade, Graduated in  $\frac{1}{8}$ th inches.

Length Blade, In.	6	7 $\frac{1}{2}$	9
Width Blade, In.	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$
Length Handle, In.	4	5	5 $\frac{1}{4}$
Weight Each, Oz.	7	8	9
Each	\$0.45	.60	.75

No. Z1—Nickel Plated Iron Handle; Polished Spring Steel Blade, Graduated in  $\frac{1}{8}$ th inches.

Length Blade, In.	8
Width Blade, In.	1 $\frac{1}{4}$
Length Handle, In.	5 $\frac{1}{4}$
Weight Each, Oz.	10
Each	\$0.75

ZENITH SLIDING T BEVELS  
With Spring Steel Blades

No. Z25—ROSEWOOD HANDLE

Blued Spring Steel Blade; Brass Flush Lever and Plates; the Bevel Blade is made Fast or Loose by moving the Lever.

Length Blade, In.	6	8	10	12
Length Handle, In.	5	5 $\frac{1}{4}$	7 $\frac{1}{2}$	8 $\frac{1}{4}$
Weight Dozen, Lbs.	2 $\frac{1}{2}$	3	4 $\frac{1}{2}$	5 $\frac{1}{2}$
Each	\$0.30	.35	.40	.50

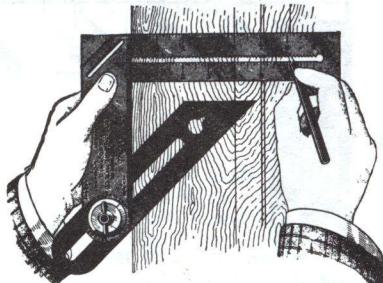


No. Z18—NICKEL PLATED IRON HANDLE

Polished Spring Steel Blade; Blade is easily secured at any Angle by Turning the Thumb Screw at the Lower End of the Handle and may be removed by taking out Set Screw.

Length Blade, In.	6	8	10
Length Handle, In.	4 $\frac{1}{2}$	5 $\frac{1}{4}$	6
Weight Each, Oz.	6	8	8 $\frac{1}{2}$
Each	\$0.60	.70	.90

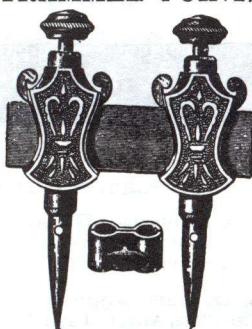
### M. A. D. COMBINATION SQUARES AND BEVELS



Shows Tool used as Marking Gauge. As a Framing Tool there is nothing better; the Protractor Blade is Long, Strong and Unlimited in its Capacity; it Cuts a Bevel, Describes a Circle, Measures an Angle and Cuts a Rafter with only One Adjustment. The Graduations for Degrees are in Two Series and for Rise in inches Four Series. Is Easily Read and when not in use may be Folded into the Stock.

Each  
No. M. A. D.—Nickel Plated Stock and Blade; Gun Metal Protractor; Size of Blade  $1\frac{1}{2} \times 10$  in.; Graduated in  $\frac{1}{16}$  in.; Size of Protractor  $2 \times 10$  in. .... \$1.25  
Weight 12 Oz. Each

### TRAMMEL POINTS



Can be attached to any length of Stick for striking larger Arcs or Circles than can be done with ordinary Compass Dividers.

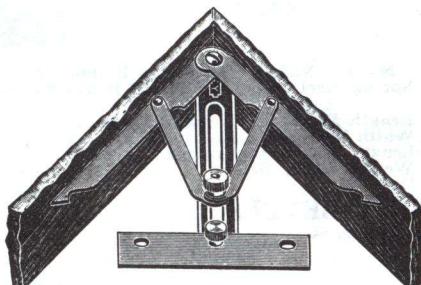
#### BRONZE METAL

Polished Steel Points; with Pencil Holder  
Per Pair  
No. 1—Small;  $1\frac{1}{2}$  in. Points; Weight 4 Oz. .... \$1.00  
No. 2—Medium;  $1\frac{1}{2}$  in. Points; Weight 4 Oz. .... 1.25  
No. 3—Large; 2 in. Points; Weight 8 Oz. per Pair .... 1.75

#### NICKEL PLATED IRON

No. 4—Small;  $1\frac{1}{2}$  in. Steel Points; Socket takes any Pencil; Weight 7 Oz. per Pair. .... \$0.75

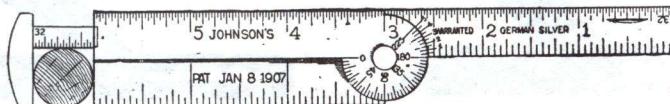
### ANGLE DIVIDERS



A handy tool for laying out work; Accurately made and can be used as a Try or T Square. With this tool, any angle can be found and bisected. Fitting moulding or other woodwork to odd angles can be done with ease and certainty. It is also graduated for the parts of a circle commonly used.

Each  
No. 30—Nickel Plated Iron; Adjusted with Two Set Screws; Size of Plate  $\frac{1}{2} \times 5$  in., Length Closed,  $7\frac{1}{2}$  in.; Wt. 10 Oz. Each.... \$1.50

### COMBINATION RULES



#### JOHNSON COMBINATION POCKET RULES

Can be used as a Hook Rule, Caliper Gauge, Protractor, Triangle or Try-square; can be set to any desired angle and the Rule remains firm wherever set

Each  
No. 46—Length 6 in.; German Silver; upper edge graduated in 32nds, lower edge in 16ths; the Caliper Blade is graduated in 16ths on one side and 32nds on the other. .... \$1.50  
Weight  $4\frac{1}{2}$  Oz. Each

No. 46C—Leather Cases for No. 46 Rules ..... .10

## BOXWOOD RULES

The value of a Rule consists in its being made of Correct Length and with Accurate Graduation. The Marswells Rule is made by such Improved Methods that it is Absolutely Correct. The Box-wood used is sawed into shape and left to season from eighteen months to two years before being made into Finished Rules. In Rules, as in all tools, a saving in the first cost is not economy. For instance, a Double Arch Joint, Bound Rule, while it costs about five times as much, will outlast a dozen Round Joint, and will be a source of greater satisfaction to the user. Bitted describes the short pieces of brass on edges where pins enter. The terms Middle or Edge Plates, Bound or Half Bound, signify the brass which protects the edges of the Rule; the 8ths, 10ths, 12ths, 16ths, etc., are the parts of an inch into which they are marked. The Caliper is the small Brass Slide used for measuring small articles where greater accuracy is required.

Note—Drafting Scales are used for laying out work or reading Drawings where a scale of  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  or 1 inch to the foot is required.



Two Foot, Four Fold

## SQUARE JOINT

## Without Drafting Scale

	Each
No. 61—With Middle Plates; 8ths and 16ths in.; 1 in. Wide; Weight 2 Oz. Each	\$0.15
<b>The Following have Drafting Scale</b>	
8ths, 10ths, 12ths and 16ths in.; 1 in. Wide	Each
No. 63—With Edge Plates; Weight 2 Oz. Each	\$0.25
No. 84—Half Brass Bound; Weight $2\frac{1}{2}$ Oz. Each	.40
No. 62—Full Brass Bound; Weight $2\frac{1}{2}$ Oz. Each	.50

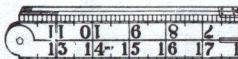


## TWO FOOT, FOUR FOLD

	Each
No. 68—Round Joint; Middle Plates; 8ths and 16ths in.; 1 in. Wide; Wt. $1\frac{1}{2}$ Oz. Each	\$0.10

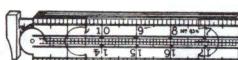
## TWO FOOT, TWO FOLD

	Each
No. 18—Square Joint, 8ths and 16ths; $1\frac{1}{2}$ in. Wide; Weight 1 Oz. Each	.25



## BLINDMAN'S

For use by workmen with poor eyesight or when working in poorly lighted places.	Each
No. 7—Square Joint; Edge Plates; 8ths and 16ths in.; $1\frac{1}{2}$ in. Wide; Wt. $2\frac{1}{2}$ Oz. Each	\$0.60



## TWO FOOT, FOUR FOLD, CALIPER

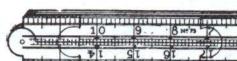
## Drafting Scale

	Each
No. 83— $1\frac{1}{2}$ in. Wide; Arch Joint; 8ths, 10ths and 16ths; Weight 3 Oz. Each	.75

## ONE FOOT, TWO FOLD, CALIPER

## Each

No. 36— $1\frac{1}{2}$ in. Wide; Square Joint; 8ths, 10ths, 12ths and 16ths in.; not Bound; Weight 1 Oz. Each	.40
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## ARCH JOINT

## Drafting Scale; 18 in. Wide

	Each
No. 75—With Edge Plates; 8ths, 10ths and 16ths; Weight 3 Oz. Each	.40
No. 76—Full Brass Bound; 8ths, 10ths and 16ths; Weight 3 Oz. Each	.60

## ARCH JOINT

## Drafting Scale; 1 in. Wide

8ths, 10ths, 12ths and 10ths in.

	Each
No. 51—With Middle Plates; Weight 2 Oz. Each	.25
No. 53—With Edge Plates; Weight 2 Oz. Each	.30
No. 52—Half Brass Bound; Weight 3 Oz. Each	.40

## With Drafting Scale

	Each
No. 54—Arch Joint; Full Brass Bound; 8ths, 10ths, 12ths and 16ths; 1 in. Wide; Weight 3 Oz. Each	.60

## With Board Measure and Drafting Scale

	Each
No. 81—Single Arch Joint; Edge Plates; 12ths and 16ths in.; $1\frac{1}{2}$ in. Wide; Weight $2\frac{1}{2}$ Oz. Each	.50

	Each
No. 62—Square Joint; Full Brass Bound; 8ths, 10ths, 12ths and 16ths in.; $\frac{3}{4}$ in. Wide; Weight 3 Oz. Each	.50

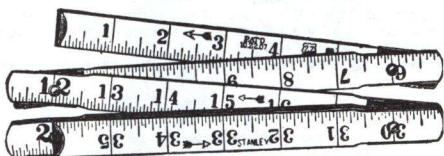


## ARCHITECTS', Beveled Edge

	Each
No. 53—Arch Joint; Edge Plates; 8ths, 10ths, 12ths and 16ths in.; with Architects' Drafting Scale; 1 in. Wide; Weight 2 Oz.	.50

## BOXWOOD RULES

## Zig Zag Rules



## Riveted Joint

## Flexible Hardwood; 5 in. Wide

## YELLOW ENAMELED

## Brass Joints and Tips

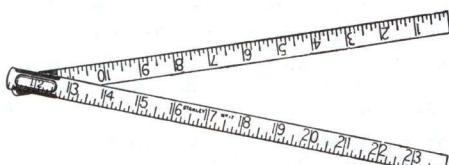
Nos.	Length	Fold	Wt. Oz.	Each
403	3 Ft.	6	2	\$0.25
404	4 Ft.	8	2 $\frac{1}{2}$	.30
405	5 Ft.	10	3	.40
406	6 Ft.	12	3 $\frac{1}{2}$	.50
408	8 Ft.	16	5	.60

## WHITE ENAMELED

## Brass Joints and Tips

Nos.	Length	Fold	Wt. Oz.	Each
503	3 Ft.	6	2	\$0.30
504	4 Ft.	8	2 $\frac{1}{2}$	.35
505	5 Ft.	10	3	.45
506	6 Ft.	12	3 $\frac{1}{2}$	.55
508	8 Ft.	16	5	.65

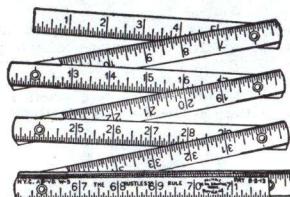
## Brass Rules



## BLACKSMITHS'

For Measuring Hot Metal; can be cooled by plunging in water, as it will not rust.

Each  
No. 17—2 ft., 2 Fold; Consists of Two Legs, made of 10 Gauge Spring Brass, Polished; Concealed Joint; Graduated in  $\frac{1}{8}$  in. on One Side and  $\frac{1}{16}$  in. on the other;  $\frac{5}{8}$  in. Wide; Weight 3 $\frac{1}{2}$  Oz. Each.....\$0.50



## ALUMINUM, RUSTLESS

Light, Strong and Durable; can be left exposed to the wet and will not rust; Large Figures, Stamped in.; Graduated  $\frac{1}{16}$  in. on both sides; Highest Grade, Spring Steel Joints.

Nos.	Length	Fold	Wt. Oz.	Each
203	3 Ft.	6	4	\$0.75
204	4 Ft.	8	5	1.00
205	5 Ft.	10	7	1.25
206	6 Ft.	12	8	1.50

## Master Slide Rules



Especially for taking Inside measurements of Window and Door Trim; Also adapted to every purpose for which a Zig Zag Rule can be used; Easily extended and closed.

Each  
No. 595—Five Foot; Boxwood, trimmed with Brass Plated Steel; Length Closed 8 in....\$1.00



## WOOD SHRINKAGE RULES

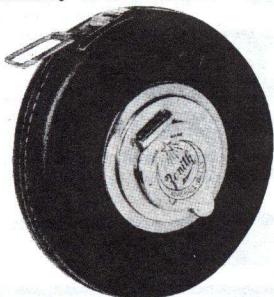
Made of Highly Finished Boxwood,  $1\frac{1}{2} \times \frac{1}{8}$  inch, Brass Capped; Graduated 8ths one side, 16ths on the other side; used in Foundries, etc., where there is an expansion and shrinkage of materials worked on.

Nos.	Length In.	Shrinkage Per Foot	Each
8201	24 $\frac{3}{8}$	$\frac{1}{16}$	\$1.00
8204	24 $\frac{3}{16}$	$\frac{3}{32}$	1.00
8205	24 $\frac{1}{4}$	$\frac{1}{16}$	1.00
8206	24 $\frac{1}{8}$	$\frac{3}{16}$	1.00
8207	24 $\frac{1}{2}$	$\frac{1}{8}$	1.00
8208	24 $\frac{5}{8}$	$\frac{5}{16}$	1.00
8209	24 $\frac{3}{4}$	$\frac{3}{8}$	1.00
8251	25	$\frac{1}{2}$	1.10
8252	25 $\frac{1}{2}$	$\frac{3}{4}$	1.10
8253	25 $\frac{3}{4}$	$\frac{7}{8}$	1.25
8254	25 $\frac{7}{8}$	$1\frac{1}{16}$	1.25
8255	26	1	1.25

In ordering Shrinkage Rules always state shrinkage desired

## ZENITH STEEL TAPES

Steel Tapes are Absolutely Reliable in Every Way, especially as to Accuracy, as they are not subject to Climatic Changes and will not Shrink nor Stretch like a Woven Tape; Mechanics, Builders' Engineers, Surveyors, etc., who Need to Measure Accurately should have a Steel Tape; Oil Occasionally to Prevent Rusting.



## INSTANTANEOUS READING

The Instantaneous Reading Feature consists in printing the Foot Marks in small figures at each Inch (see illustration); this prevents inaccuracies and loss of time as it is unnecessary to refer to the last registered foot, as with the ordinary Tape Measure.

## ZENITH REGULAR

$\frac{3}{8}$  in. Tape; Case  $\frac{3}{8}$  in. Thick; Marked Feet, Inches and 8ths

Best Quality Dark Green Leather Case, Steel Lined, Double Stitched; Nickel Plated Folding Handle, Opened by pressing Button on Opposite Side; Frost Coated Flexible Steel Tape with Markings plainly Etched in.

Nos. ....	3	7
Length, Ft. ....	50	100
Diam. Case, In. ....	3 $\frac{1}{4}$	4 $\frac{1}{2}$
Weight Each, Oz. ....	12	22
Each ....	\$5.00	\$8.00

## ZENITH SPECIAL, THIN MODEL

Not Bulky; It Fits the Pocket

$\frac{1}{4}$  in. Tape; Case  $\frac{1}{4}$  in. Thick; Marked Feet, Inches and 16ths

Best Quality, Dark Green Leather Case, Double Stitched; Nickel Plated Folding Handle; Frost Coated Flexible Steel Tape with Markings plainly Etched in.

Nos. ....	9	11	13	15
Length Ft. ....	25	50	75	100
Diam. Case, In. ....	2 $\frac{1}{4}$	3 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$
Weight Each, Oz. ....	5	7	12	14
Each ....	\$3.50	4.25	5.50	6.75



## ZENITH CARPENTER'S APRONS

Each

No. Z5—A Zenith Quality Apron, made from 10 Oz. White Duck; 26 in. Long, 29 in. Wide; Nail and Rule Pockets are Double Front and Back; Bib Corners are Turned Over and Stitched and Fitted with Pencil and Nail Set Pockets; Strings are Adjustable and tie to Brass Grommet Rings at the corners of the Bib; this makes a fine Apron for the particular Man

Weight 8 Oz. Each

\$0.60

## ZENITH CARPENTER'S ALUMINUM LEVELS

The Aluminum used in these new Zenith Aluminum Levels is 99 per cent pure; the Spirit Glasses are proved and guaranteed accurate; Contractors, Foremen and Artisans who insist on high grade, accurate work will find these Levels unsurpassed.



### ZENITH; TWO PLUMBS AND TWO LEVELS

No. 18AZ—Length 18 in., Width 2 $\frac{1}{4}$  in., Thickness 1 $\frac{1}{8}$  in.; Two Plumbs and two Levels; Reversible, works either End or Edge up; Weight 1 $\frac{1}{4}$  Lbs. Each..... \$3.85

No. 24AZ—Length 24 in., Width 2 $\frac{1}{4}$  in., Thickness 1 $\frac{1}{8}$  in.; Two Plumbs and Two Levels; Reversible, works either end or edge up; Weight 2 $\frac{1}{4}$  Lbs. Each..... \$4.50



### ZENITH; FOUR PLUMBS AND TWO LEVELS

For Low Work, Upper Plumb Glass is read and for Overhead work the lower Glass is in range; the Duplicate Plumb Glasses, one at the top and one at the bottom, both reading the same way add to its convenience.

No. 30AZ—Length 30 in., Width 3 in., Thickness 1 $\frac{1}{8}$  in.; Reversible, works either End or Edge up; Weight 3 Lbs. Each..... \$5.00

## ZENITH MASON'S WOOD LEVELS

Selected Air Dried White Pine, Light, Durable and Accurate; Spirit Glasses Proved and Guaranteed Accurate; the Glasses have a slight crown and a quick acting bubble and are set in such a way as to give the least amount of trouble and the greatest efficiency; all Spirit Glasses are covered and protected with heavy Plate Glass.



### ZENITH PLUMB AND LEVEL

No. 1AZ—Length 42 in., Width 3 $\frac{1}{2}$  in., Thickness 1 $\frac{1}{8}$  in.; two Plumb Glasses, One Top Level, Two Side Views, Bob, Hand Hole and Scribe; Weight 3 $\frac{3}{4}$  Lbs. Each..... \$2.50



### ZENITH PLUMB AND LEVEL

No. 3AZ—Length 48 in., Width 3 $\frac{1}{2}$  in., Thickness 1 $\frac{1}{8}$  in.; three Plumb Glasses, two Center Level Glasses, Two Side Views, Bob, Hand Hole and Scribe; Weight 4 Lbs. Each..... \$3.50



### ZENITH PLUMB AND LEVEL; BRASS BOUND EDGES

Double Construction; Always in position for use, no matter how they are picked up  
No. 7AZ—Length 48 in., Width 3 in., Thickness 1 $\frac{1}{8}$  in.; four Plumbs, two Levels, five Side Views, two Hand Holes; Weight 4 Lbs. Each..... \$6.00

## ZENITH STEEL LEVELS

A High Grade Level which is light in weight, strong and accurate; will not mar on the edges or warp out of shape.

Stocks are made of Best Quality Cold Rolled Steel, securely riveted with Brass Rivets; Webs of all Stocks have Rustless, Oxidized Finish; Flanges are heavily nickel plated.

Vials used in these Levels are all proved and guaranteed accurate; they are made from Clear Glass Tubing and set in Nickel Plated Tubes.

One of the Vial Rings of No. Z11 Level is graduated one-half by Degrees, the other into One Inch Rise per Foot, making the best and most accurate Level of its kind.

Nos. Z33, Z44 and Z55½ Levels have one Vial Tube with movable end at which a Degree Scale is stamped into the Stock; this tube can be raised on the Scale from level to a 50° Degree angle.



## ZENITH PLUMB, LEVEL, PITCH AND ANGLE LEVEL

The Vials are mounted on Brass Rings which are secured to the Stock by Brass Screws and Nuts; the Inclinometer and Pitch Gauge may be set to any Angle or Pitch by loosening the Ring Screws.

No. Z11—Lengths 24 and 26 in.; Size of Stock 3½x1½ in.; Weight 2½ Lbs. Each..... Each \$3.00



## ZENITH PLUMB AND INCLOMETER LEVELS

The Plumb and Level Vials are easily adjusted by Screws; the Inclinometer Tube is adjustable from level to 50° Angle

No. Z33—Lengths 14 and 16 in.; Size of Stock 2½x1½ in.; Weight 1½ Lbs. Each..... Each \$1.50



## ZENITH PLUMB, LEVEL AND INCLINOMETER

The Plumb and Level Vials are easily adjusted by Screws; the Inclinometer Tube is adjustable from level to 50° Angle

No. Z44—Lengths 22 and 24 in.; Size of Stock 2½x1½ in.; Weight 2½ Lbs. Each..... Each \$2.35



## ZENITH MASON PLUMB, LEVEL AND INCLINOMETER

A Mason Level which is light, yet will not be marred and spoiled by contact with Brick, Mortar or Concrete as is the case with Wooden Stocks. Easily adjustable. One Inclinometer adjustable from level to 50° Angle; this Inclinometer is very handy for Sidewalk, Concrete and other Mason work; the Plumb and Level Vials are easily adjusted by Screws; has 4 Plumbs, set in opposite directions, so that One Set of Plumbs is available at all times.

No. Z55½—Length 48 in.; Size of Stock 3½x1½ in.; Weight 4 Lbs. Each..... Each \$5.50

## ZENITH WOOD LEVELS

Zenith Stocks are made of Selected, Thoroughly Seasoned Lumber; with Patented Improved Grip; All Brass Ends are Solid Drop Forged Metal; the Adjustment Feature is easily accessible and is operated by Set Screws, which cannot rust in position; there is no Spring Tension to get out of order.



## LEVELS ONLY

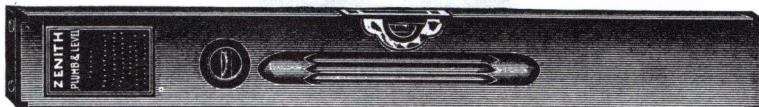
No. Z102—Not Adjustable; Hardwood, Polished; Assorted Lengths 10, 12, 14 and 16 in.; Patent Improved Grip; Proved Glass.....	Each \$0.40
Average Weight 1½ Lbs. Each	



## PLUMBS AND LEVELS

Not Adjustable; Hardwood, Polished; Patent Improved Grip; Proved Glasses

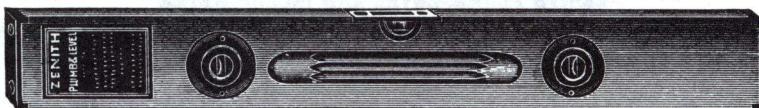
No. Z104—Assorted Lengths 12, 14, 16 and 18 in. ....	Each \$0.60	No. Z0—Assorted Lengths 24, 26, 28 and 30 in. ....	Each \$0.85
Average Weight 1½ Lbs. Each	Average Weight 3½ Lbs. Each		



## PLUMBS AND LEVELS

Adjustable; Brass Arch Top Plate; Two Side Views, Polished; Patent Improved Grip; Proved Glasses

No. Z1X—Mahogany; Assorted Lengths 26, 28 and 30 in. ....	Each \$1.00	No. Z3—Cherry, Brass Tipped; Assorted Lengths 26, 28 and 30 in. ....	Each \$1.50	No. Z5—Cherry, Triple Stock, Polished; Brass Tipped; Assorted Lengths 26, 28 and 30 in. ....	Each \$1.75
Average Weight 3 Lbs. Each	Average Weight 4 Lbs. Each			Average Weight 4 Lbs. Each	



## PLUMBS AND LEVELS

Brass Top Plate; Two Brass Lipped Side Views, Two Brass Lipped Plumb Views; Both Level Glasses Proved and Set in Brass Tubing; Patent Improved Grip

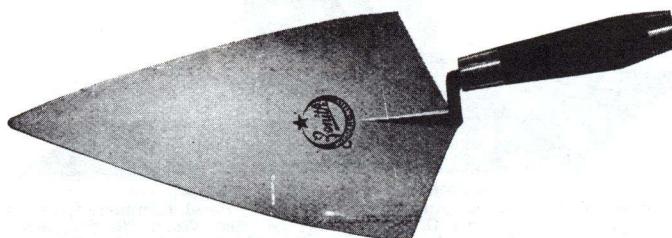
No. Z30—Cherry; Assorted Lengths 26, 28 and 30 in. ....	Each \$1.75	No. Z50—Cherry, Triple Stock; Assorted Lengths 26, 28 and 30 in. ....	Each \$2.00
Average Weight 4 Lbs. Each	Average Weight 4 Lbs. Each		



## MARSWELLS HEXAGON POCKET LEVELS

No. 31—3½ in.; Weight ½ Lb. ....	Each \$0.25
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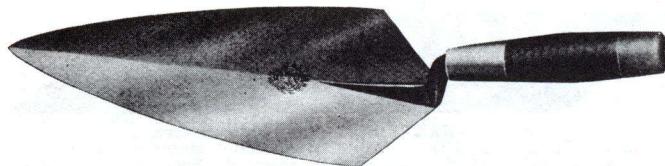
## BRICK TROWELS



No. 10—ZENITH, Wide Heel

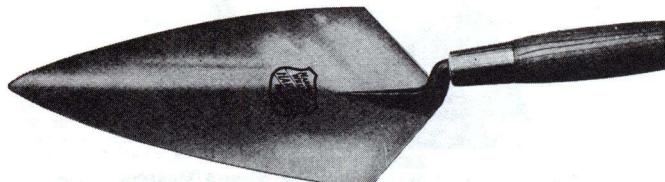
Best Crucible Steel Blade, Highly Polished; Guaranteed True Temper, which is obtained under 850 Lbs. Pressure; Ground to a Correct Taper; Perfect Hang; 5 in. Leather Handle with Maple End; Polished Steel Ferrule.

Length Blade, In.	10 $\frac{1}{2}$	11	11 $\frac{1}{2}$	12
Width, In.	6	6 $\frac{1}{2}$	6 $\frac{1}{2}$	6 $\frac{1}{2}$
Weight Each, Lbs.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Each	\$2.00	2.00	2.00	2.00

No. 20—ZENITH, LEATHER HANDLE  
Philadelphia Pattern

Best Crucible Steel Blade, Highly Polished; Guaranteed True Temper, which is obtained under 850 Lbs. pressure; Ground to a correct Taper.

Length Blade, In.	10 $\frac{1}{2}$	11	11 $\frac{1}{2}$	12
Width, In.	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$
Weight Each, Lbs.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Each	\$1.75	1.75	1.75	1.75



No. 40—HARTFORD, Rose Pattern

Crucible Steel Blade, Polished and Tempered; Ground to a Correct Taper; 5 $\frac{1}{2}$  in. Beechwood Handle; Polished Steel Ferrule.

Length Blade, In.	9	9 $\frac{1}{2}$	10	10 $\frac{1}{2}$	11	11 $\frac{1}{2}$	12
Width, In.	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5
Weight Each, Lbs.	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	1	1	1 $\frac{1}{2}$
Each	\$0.45	.50	.60	.65	.70	.75	.80



No. 80—ZENITH POINTING

Made from the Best Quality of Trowel Steel; Full Polished, with Taper Ground Spring Point.

Length Blade, In.	4 $\frac{1}{2}$	5	6
Width Blade, In.	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Weight Each, Oz.	3	4	5
Each	\$0.45	.50	.60



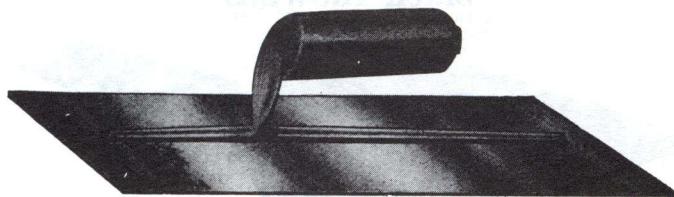
No. 90—HARTFORD POINTING

Polished Steel Blade, Solid Shank, 4 $\frac{1}{2}$  in. Beech Handle, Polished Steel Ferrule.

For Pointing or Finishing Intersections of Joints between Bricks or Building Stones.

Length Blade, In.	4 $\frac{1}{2}$	5
Width Blade, In.	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Weight Each, Oz.	3	4
Each	\$0.25	.30

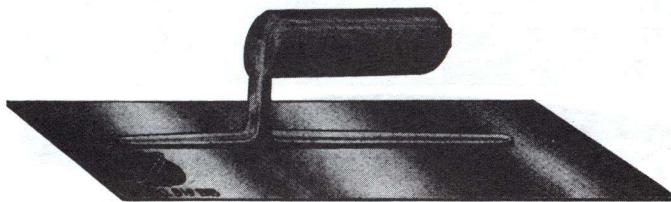
## PLASTERERS' TROWELS



No. 5—ZENITH, Marshalltown Pattern

Blade is 23 Gauge, Extra Special Quality Crucible Steel, Hand Hammered, Full Polished and Etched, Slightly Convex Ground and Oil Tempered; Selected Wood Handle, Black Enameling; Tang extends entire length and is fastened at the end; Mounting extends within  $\frac{1}{4}$  in. of each end of Blade and is secured with 10 Rivets.

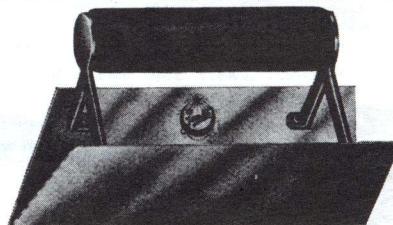
Size Blade, In.	11x4 $\frac{1}{2}$	11 $\frac{1}{2}$ x4 $\frac{1}{2}$	11 $\frac{1}{2}$ x5	12x4 $\frac{1}{2}$	12x5
Weight Each, Lbs.	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Each	\$2.50	2.50	2.50	2.50	2.50



No. 25—HARTFORD, Cincinnati Pattern

Blade is 23 Gauge, Special Quality Crucible Steel, Hand Hammered, Polished and Etched, Slightly Convex Ground and Perfectly Tempered; Selected Wood Handle, Rosewood Stained; Tang extends entire length and is fastened at the end.

Size Blade, In.	11x4 $\frac{1}{2}$	11 $\frac{1}{2}$ x4 $\frac{1}{2}$	12x4 $\frac{1}{2}$
Weight Each, Lbs.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Each	\$1.50	1.50	1.50



ZENITH CORNER

For Plasterers, in Finishing Corners, around Mouldings, etc. Each  
No. 100—Best Crucible Steel Blade; Length 6 in., Width 2 $\frac{1}{2}$  in.; Polished and Tempered; Bronzed Malleable Iron Shanks; 4 $\frac{1}{2}$  in. Black Enameling Handle; Weight  $\frac{1}{2}$  Lb. Each.....\$0.75



## ZENITH PLUMB BOBS

Used by Masons, Bricklayers, Carpenters, Farmers, Millwrights, Surveyors, Etc.

Nickel Plated, Octagon Tool Steel, Highest Quality; Hardened Point, Brass Screw Top with Hole in Center for Line to pass through.

Each
\$0.25
.35
.50

One in a Box

## ZENITH SAWS

Up until say ten years ago, most of the lumber used in this country was soft Pine.

Soft Chisels and Saws answered every purpose, and trouble only came with the use of kiln dried Oak. When this soft Pine supply ran low, Western Fir came into the market, which opened our ears to complaints that the tools were soft.

Then we tried a harder Steel, but it was less ductile and more brittle and it would not serve to have them so hard as to break the Steel in setting teeth.

The fibre or grain of Western Fir is harder on the Saw Teeth than the toughest Oak. It is more like a Bamboo fibre, the hard lying between soft Cork-like layers, acting on the Saw like a File.

We kept on experimenting and finally found an English Alloy Steel that seemingly had the desired strength and toughness we were looking for. We had some of this Steel forged and hammered into Saw Blades by a famous English Saw Maker.

We took these samples up into the Laboratory, polished the Steel on coarse and fine Emery Wheels, finishing with Jeweler's Rouge for a Mirror surface, coated it with acid to bring out the grain and colors of the Steel, critically examined a wide area under the Microscopic Camera, chemically analyzed the Steel composition, tested every inch on the tooth and back edges, to make sure the temper hardness was uniform, and graduated, and that the thickness was properly tapered from heel to point and teeth to back; filed the teeth and set them uniformly, to exactly match a standard make of Saw, and, with a Microscope, proved the filing.

The possibilities in the English samples were easily recognizable, it needed but a little better Steel and a further perfection of the heat treatment.

Originally we intended to take advantage of the Steel hammering, drawing and tempering which have made Sheffield famous, but to import the Blades only,—finishing, etching and handling them on this side. Then a lowering of the tariff duties made it possible to import the Saw ready to use; a Saw unequalled for toughness, the fastest, easiest running and best all around Saw we have ever heard of.

It is the hardest Saw whose teeth can be set; it will remain sharp longer than any other Saw. Prove this by number of strokes, length of time and amount of cut. The teeth must be set and filed by an experienced man—we cannot, on account of their extreme hardness, guarantee the teeth against breakage through carelessness.

This Zenith High Speed Saw is guaranteed unconditionally against any kind of failure in any duty. At a recent test, the Zenith High Speed cut in 94 strokes, what the best advertised Saw required 106 strokes to do.

Hard fibre is about the consistency of the hardest knots and its real value as a testing material lies in its uniformity of texture of fibre.

We were later testing the Zenith High Speed against the best pattern of one of the largest Saw Makers in the United States, and at the end of three cuts in Oregon Fir and two in fibre 12 inches wide, the High Speed had not turned a tooth, but the other widely advertised Saw turned some teeth on the first fibre cut.

## HOW DOES THE HIGH SPEED SAW EXCEL ALL OTHERS?

Because it is made of Chrome Vanadium Alloy Steel. Chrome and Vanadium strengthen the Steel by giving it greater hardness and a higher limit of elasticity, so that, although the Zenith High Speed is ground two gauges thinner than the nearest competition, it will not buckle or kink on knots or any fibre.

If the ordinary Saw buckles, the friction from the kink ruins the Saw.

In addition to grinding it two gauges thinner, the teeth of the Zenith High Speed Saw are set (bent over on each side) so that the teeth will clear the body of the Saw, in any wood, old or green, dry or wet. This extra thinness may be likened to the Band Saw, which removes less than half the kerf or saw dust cut out by the circular Saw.

This Zenith High Speed cuts like a Razor, yet, unlike a Razor, it will retain its edge longer than any other Saw whose teeth can be set. Boiling it down to percentages, we would say that it cuts 15 per cent easier and 10 per cent faster. Its thickness varying from 17 Gauge at the heel and about 8 inches from the body to 19 Gauge on the point, its life and spring are instantly appraised by any man who knows a good Hand Saw.

The Zenith High Speed Saw can be wrapped in a coil and strapped in that position, and yet, when released, it will not show a permanent bend. If some other Saw also stand that test, you say then go the limit and roll the two contestants for your favor back and forth,—(giving each a chance to cool between coilings) then see which stands up best.

If an ordinary Saw is bent in that way, a wave or kink will be produced and the Saw ruined.

The Zenith High Speed may be bent on the floor, twisted, distorted, yet when sighted or tested with a straight edge, it will be found perfectly true.

There is nothing to be determined by tapping a Saw, listening to its tune, or breathing on it.

The evaporation of the breath depends upon whether the atmosphere is dry or full of moisture, and has nothing to do with the composition, hardness or toughness of the Steel.

It is customary, in ordinary grades, to find 6 to 10 per cent of the Saws so soft that they should not be sent out, and yet the manufacturer is perfectly safe in sending out 10 per cent in this condition; in fact, they are not as apt to be returned as if they were too hard.

While the owner must file them more frequently, he is indifferent to that, as he would not be, if the teeth broke off because the Saw was too hard.

But Marshall-Wells, are taking all the risk of attaining this extra hardness because we know that the longer the Saw will wear and keep sharp, the less frequently it needs to be re-filed, and if the teeth are not too hard to be properly set, then we give the user what all must acclaim the Zenith, the top-notcher of all Hand Saws.

The Handles of the Zenith High Speed Saw are English Beech, supposed to be cut only from trees on the outside of the grove, where they have been swept by the gales and are of tougher growth.

## ZENITH RIP, HAND AND PANEL SAWS

Unconditionally Guaranteed



## ZENITH HIGH SPEED

Made of a Special Alloy Steel which is tough and flexible and takes a high temper; made with the greatest care and thoroughly inspected and tested; Full Polished and Etched Blade, Full Taper Ground; Teeth are Hand Filed and Hand Set; Full Beveled Diamond Points; Carved Applewood Handle, Full Polished; Five Brass Screws.

Style	Rip	Hand	Panel	Panel
Length, In.	28	26	26	22
Points to Inch	5, 5½	5, 5½	7 to 12	8, 9, 10, 11, 12
Weight Each, Lbs.	2½	2	2	9, 10, 11
Each	\$3.25	3.00	3.00	1½
				2.75



## ZENITH SHIP CARPENTERS OR NARROW BACK

Designed to meet the demand for a good Saw narrowed down; Hand Smithed, Blocked, Filed and Set; Narrow, Shapely Blade of Extra Refined American Spring Steel, Finely Finished; Light and Rigid, Full Taper Ground to Back; Will Last as Long as Regulation Width.

No. Z2SC—26 in. Hand Saw, 1½ in. at Point, 6 in. at Heel; 8, 9, 10 and 11 Points to the in.; Weight 2 Lbs. Each ..... \$2.00



## THE ZENITH SPECIAL

Full Skew Back; Full Taper Ground; Four to Five Gauges thinner on back at end than on tooth edge and heel. Hand Made of Extra Refined Special Saw Steel, extra highly polished and etched and perfectly tempered; Teeth are Hand Filed and Hand Set; Full Beveled Diamond Points; Carved Applewood Handle, Full Polished; Five Brass Screws.

Style	Rip	Hand	Panel	Panel	Panel	Panel	Panel
Length, In.	28	26	26	24	22	20	18
Points to Inch	4½ to 6	5, 5½, 6	6 to 12	8 to 12	8 to 12	8 to 12	9 to 12
Weight Each, Lbs.	2½	2	2	1½	1½	1½	1½
Each	\$2.50	2.25	2.25	2.25	2.00	1.75	1.65

## ZENITH RIP, HAND AND PANEL SAWS

Unconditionally Guaranteed



## No. Z8—ZENITH WARRANTED

**Sway Back, Patent Ground and Tempered; Best Spring Steel Blade, Full Polished and Etched; Carved Beech Handle, Polished; Four Brass Screws**

Style	Rip		Hand		Panel			
	Length, Inches	Points to Inch						
Length, Inches	28	4 1/2 to 6	26	4 1/2 to 6	6 to 10	8 to 11	24	22
Points to Inch							8 to 12	8 to 12
Weight Each, Lbs.	2 1/2	2 1/2	2	2	2	1 1/2	1 1/2	1
Each	\$2.25		2.00		2.00		1.75	1.65
								1.50

## HACK OR NAIL CUTTING SAWS

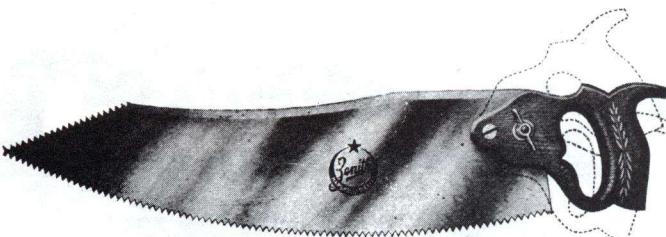


## ZENITH HACK OR NAIL CUTTING SAWS

**Carved Handle, Nickel Trimmed; For Sawing Metal, Nails, etc., as well as Wood**  
Especially useful in remodeling buildings and for similar work where an ordinary Saw would be ruined. The Blade is made of Specially Tough Steel, Toothed and Tempered for this special purpose; the Handle can be adjusted and instantly fastened to suit any pitch of Blade required.

Length Blade, Inches	18	20	22
Weight Each, Lbs.	1	1	1 1/2
Each	\$1.50	1.75	2.00

## FLOORING SAWS



## ZENITH FLOORING

For cutting openings in Floorings, Sidings, Partitions, Sheetings, for Plumbers' Use and for use where the ordinary saw cannot be operated. It overcomes the objectional features of boring holes, destroying material and consuming time. The Curvature Cutting Edge with Patent Adjustable Handle allows long or short stroke. The Back Toothed Cutting Edge is to square the cut and corners.

No. ZF1—Length Blade 18 in., 11 Points per inch	Each
Weight 1/2 Lb. Each	\$1.75

## COMPASS AND KEYHOLE SAWS

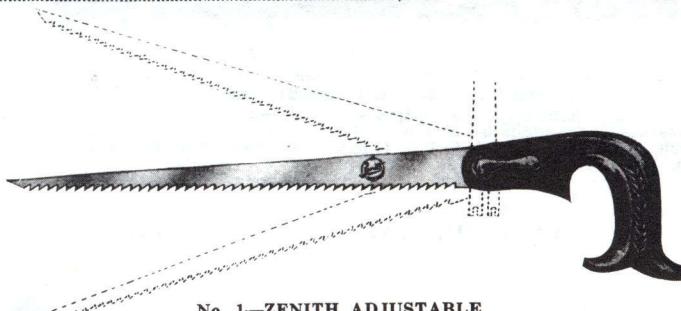


## No. 6—ZENITH NON-ADJUSTABLE

Unconditionally Guaranteed

Best Quality Steel Blade; Finely Finished and Highly Polished and Etched; Applewood Handle with Varnished Edges; Two Brass Screws.

Length Blade, In.	10	12	14	16
Weight Each, Lbs.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Each	\$0.35	40	.45	.50



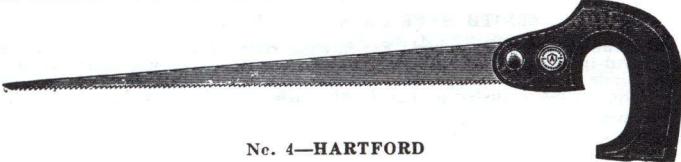
## No. 1—ZENITH ADJUSTABLE

Unconditionally Guaranteed

Blade is Adjustable to any angle, allowing the user to saw in every conceivable form and position in corners, etc. The Backs of the Saw Blade and Handle are constructed so as to form a Flush Bevel, as handy as it is perfect and convenient.

Best Quality Steel Blade, Finely Finished and Highly Polished and Etched; Carved Applewood Handle.

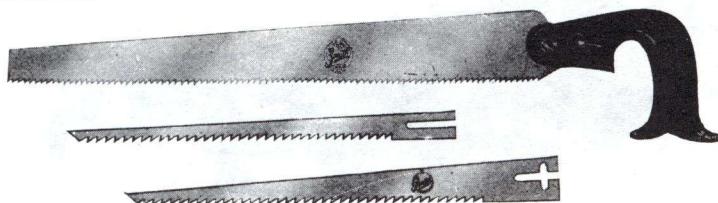
Length Blade, In.	10	12	14	16
Weight Each, Lbs.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Each	\$0.50	.60	.65	.75



## No. 4—HARTFORD

Cast Steel Blade, Polished and Tempered; Applewood Handle, with Varnished Edges; Two Brass Screws

Length of Blade, In.	12	14	16
Weight Each, Lbs.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Each	\$0.25	.30	.35



## ZENITH NEST OF SAWS

For Carpenters, Electricians and Plumbers; Complete with Handle

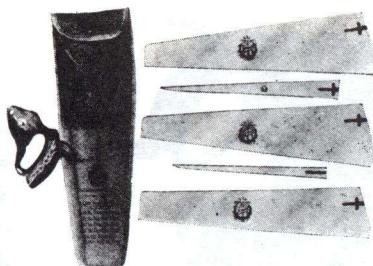
Best Quality Steel Blades, Polished and Etched; Carved Applewood Handle; Constructed so that the Blades may be changed, reversed and adjusted to suit the work; Blades can be resharpened.

Per Set

Set No. 11—Set contains One 18 in. Hack Saw Blade for sawing Metal, One 12 in. Compass Blade for sawing Wood, One 10 in. Keyhole Blade for sawing Wood. \$1.75

Set No. 12—With 18 inch Pruning Blade instead of Hack Saw Blade, Otherwise same as No. 11; Weight 1 Lb. per Set. 1.75

## HANDY SAWS



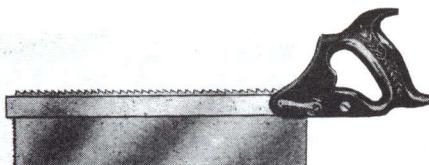
ZENITH HANDY SAWS

Contents of Set

1 Only 18 in. Hack or Metal Cutting Blade for Nails, Metal and Wood; can be filed	Per Set
1 Only 18 in. Cross Cut Saw Blade	
1 Only 18 in. Rip Saw Blade	
1 Only 12 in. Compass Saw Blade	
1 Only 10 in. Keyhole Saw Blade	

A Complete Set of Handy Saws for Carpenters, Plumbers, Electricians or Manual Training Schools; Blades are Finest Crucible Spring Steel, Full Polished and Etched; Each Saw Tested.

No. Z5N—Set Contains Five Saws as listed above in a Leather Bound Canvas Scabbard, Size 6x19 in.; Adjustable, Carved Applewood Handle fits all Saws.....\$4.75  
Weight 2½ Lbs. per Set



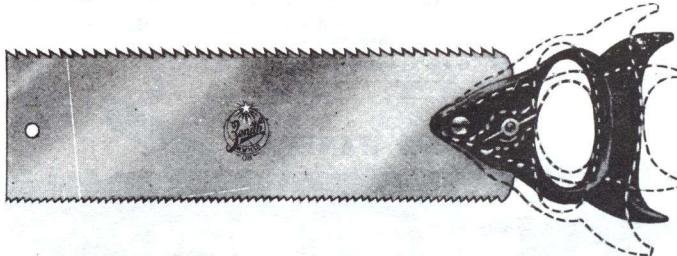
No. 22—ZENITH RIP, CROSS CUT AND DEPTH SAWS

One of the most Useful and Convenient Time and Labor Saving Saws made; Indispensable to anyone having use for a Back, Mitre, Housing or Stair Builders' Saw.

The Back of this Saw constitutes a Slot, through which the Blade slides, allowing it to be moved, spaced and adjusted to any width or distance from edge of Back, so that the user can cut with perfect exactness any desired depth.

Spring Steel Blade, Polished and Etched; Hand Filed and Set ready for use; Carved Applewood Handle; Nickel Trimmed.

Length, In.	14
Weight Each, Lbs.	1½
Each	\$2.00



No. 22—ZENITH RIP AND CROSS CUT SAWS

For Panel, Back Cabinet, Small Mitre and Household Use; A Handy Saw for Pattern Makers  
The Handle can be swung to one side or the other and held firmly in any position for either Rip or Cross Cut Sawing.

Fine Steel Blade, Polished and Etched; of proper temper and stiffness.

Length, In.	12
Weight Each, Lbs.	¾
Each	\$0.90

## MITRE BOX SAWS

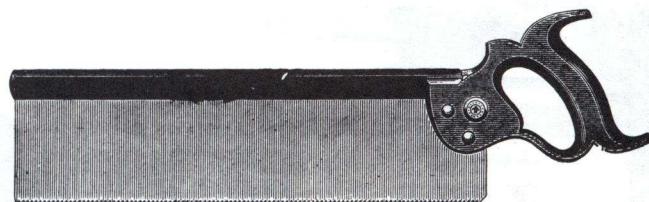


No. Z44—ZENITH MITRE BOX SAWS

Full Length of Blade is Measured; Toothed Edge is 2 in. Shorter; Width is Under Back  
Extra Refined Saw Steel Blade, Full Polished and Etched; Applewood Handle with Var-  
nished Edges; Three Brass Screws; 11 Points per inch.

Length, In.	26	28	30
Width, In.	4	5	5
Weight Each, Lbs.	3½	4	4½
Each	\$2.75	3.00	3.25

## BACK SAWS



## No. 4—BACK SAWS

Best Steel Blade, Polished and Tempered; Blued Steel Back; Varnished, Applewood Handle; Three Brass Screws; to Run Without Set

Length, In.	10	12	14	16	18
Weight Each, Lbs.	1	1½	1½	2	2½
Each	\$1.20	1.30	1.50	1.70	1.90



## No. 1—BACK SAWS

Cast Steel Blade, Polished and Tempered; Blued Steel Back; Beech Handle, Varnished; Three Brass Screws

Length, In.	10	12	14	16
Weight Each, Lbs.	½	1½	1½	1½
Each	\$0.90	1.00	1.20	1.30

## SAW HANDLES

When ordering Extra Handles, specify Size of Saw and whether for High Speed, Zenith Special or No. Z8 Saw



## ZENITH HAND AND RIP

Best Quality Applewood, Handsomely Carved, Varnished; without Screws; Fits Zenith and some other Standard Makes of Saws.

Each	Each
No. 8—For Hand Saw.....	\$0.40
No. 88—For Rip Saw.....	.40

## COMPASS

Each

No. 2C—For any Standard Make of Compass Saws; Not Bored, Without Screws; Weight  $\frac{1}{4}$  Lb. Each.....

\$0.15

No. 2S—For Slotted Head, Compass or Key-hole Saws, with Screws; Weight  $\frac{1}{8}$  Lb. Each.....

.20



## BACK

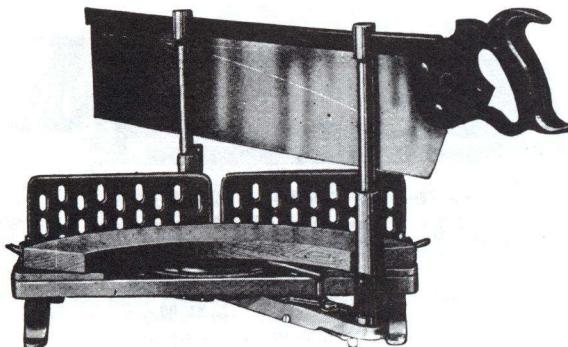
Not Bored; Without Screws

No. 4B—For any Standard Make of Back Saws; Weight  $\frac{1}{4}$  Lb. Each.....

\$0.15

## ZENITH STEEL MITRE BOXES

Accurate,  
Simple,  
Light,  
Strong,  
Practical



Pressed  
Steel,  
Holds  
Irregular  
Shaped  
Pieces

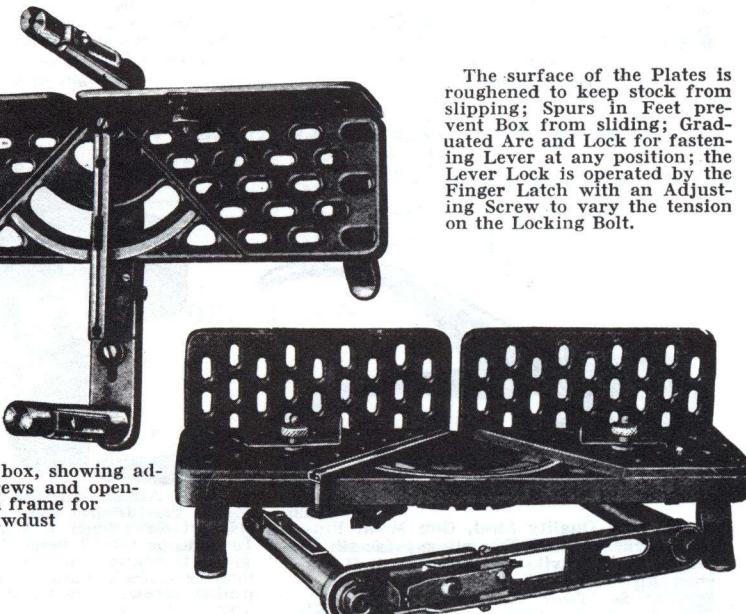
Saw elevated and circular segment held in place by stock gauges

## ZENITH, Nickel Plated; Black Enamel Trimmings

The Frame is made of Cold Rolled Steel, of a Tough, Uniform Grade, from  $\frac{1}{16}$  to  $\frac{1}{8}$  in. thick; the Saw Guides, Posts and all Screws are machined from the Solid Bar; the Reinforcements under the Frame are Drop Forgings; every part of this Mitre Box is extra strong; there are no rivets; all parts are welded by the Electric and Oxy-Acetylene processes; the Detachable Lever allows the Box to be packed in any Tool Chest; the Degree Scale is Die Cut onto the Frame, allowing the angles of the various cuts to be correctly and easily read; Prices include Saw and all attachments.

	Size of Saw, In.	Capacity at Right Angle	Capacity at Mitre	Weight Crated Lbs.	Each
No. Z28 .....	.28x5	10 $\frac{1}{4}$ in.	7 in.	27	\$14.00
No. Z30 .....	.30x5	10 $\frac{1}{4}$ in.	7 in.	28	14.50

Weight of Box, less Saw, only 13 Lbs.

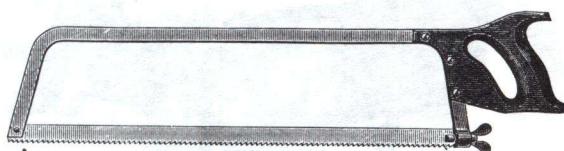


Top view of box, showing ad-  
justing screws and open-  
ings in frame for  
sawdust

The surface of the Plates is  
roughened to keep stock from  
slipping; Spurs in Feet pre-  
vent Box from sliding; Grad-  
uated Arc and Lock for fasten-  
ing Lever at any position; the  
Lever Lock is operated by the  
Finger Latch with an Adjust-  
ing Screw to vary the tension  
on the Locking Bolt.

Showing lever detached

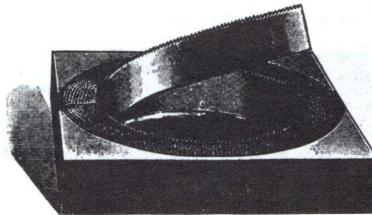
## BUTCHER SAWS, BLADES, ETC.



No. 70—MARSWELLS BUTCHER SAWS

Flat Polished Steel Back,  $3\frac{1}{4}$  in., Round Edge; Bright Steel Blade,  $\frac{3}{4}$  in. Wide; Teeth Set and Filed for hard service; Beech Handle; Three Nickleed Screws; No better Butcher Saw in the World at these prices.

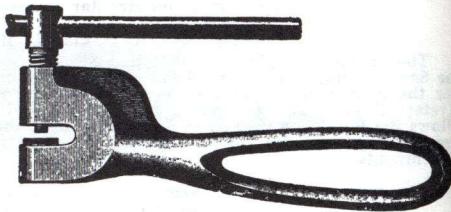
Length, In.	18	20	22	24
Weight Each, Lbs.	2	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$
Each	\$1.00	1.10	1.20	1.30



ZENITH BUTCHER SAW BLADES, IN COILS Per Box

No. 250—25 Feet Long,  $\frac{5}{8}$  in. Wide; Finest Spring Steel, Tempered, Ground and Polished; Set ready for use; Cut off any desired length; 11 Points per inch; in Neat Box,  $8\frac{1}{2} \times 8\frac{1}{2} \times 2\frac{1}{2}$  in. .... \$2.00

Cut to Length, \$0.10 per Foot  
Weight  $1\frac{1}{2}$  Lbs. per Box

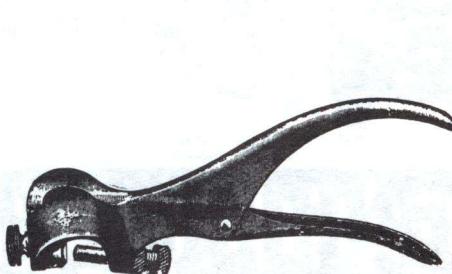
SAW BLADE PUNCHES  
For Butcher Saw Blades

No. 100—Malleable Iron Frame, Nickel Plated; Steel Screw and Cross Bar; Tool Steel Die and Punch, carefully tempered; Length over all  $5\frac{1}{4}$  in. .... \$0.50

Weight  $\frac{2}{3}$  Lb. Each

...

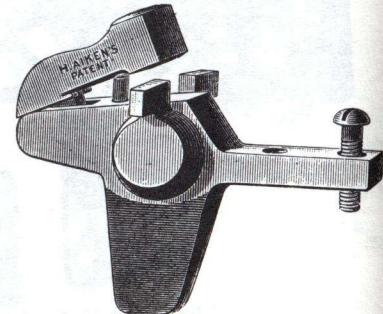
## SAW SETS



ZENITH SAW SETS

No. 195—Best Quality Steel, Gun Metal Finish; Nickel Plated Trimmings; Length 7 in., Inclined Anvil, Indicating Dial, Hardened Anvil and Plunger; Tempered Steel Spring; Set Teeth from 4 to 16 per in., Shaped to fit the Hand..... \$1.25

Weight  $\frac{2}{3}$  Lb. Each

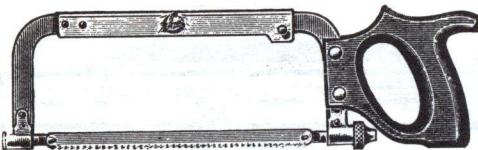


AIKEN HAMMER SAW SETS

For Circular and Cross Cut Saws  
Insert Saw Over Top of Front Screw; let Tooth to be Set go under the Tooth on the Star which is nearest the width of the Saw Tooth; then bend Tooth until the Saw strikes the Projecting Screw; Adjust amount of Set by Front Screw. .... \$0.50

No. 4A—Genuine Aikens, High Grade Cast Steel, Polished; Weight 8 Oz. Each..... \$0.50

## HACK SAW FRAMES



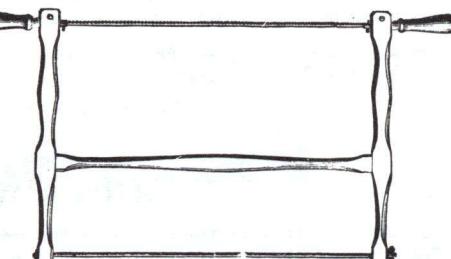
ZENITH, Extension

The construction of this Frame is the most practical devised; the fingers are well guarded, there is no protruding thumb nut on the end; the Handle fits the hand comfortably in several positions to accommodate the location of the work; Tension of Blade is regulated by knurled head adjusting screw beneath the Handle; The under side of top of Frame is notched; a floating rivet in the tube engages in these notches; a rigid bearing is secured throughout the entire length making it extra strong and preventing buckling.

No. Z66—Full Nickel Plated, Steel Frame; Polished Hardwood Handle with two Rivets; Takes Blades 8 to 12 In.; Depth of Cut 3½ In. .... Each \$1.25  
One in a Box; Weight 1½ Lbs. Each

## HACK SAW FRAMES

## TURNING SAWS



HARTFORD, Extension

Gives a rigid tension to the saw without use of screws.

Each

No. H10—Nickel Plated Steel Frame; Adjustable Lock Extension; takes Blades from 8 to 12 in.; Depth of Cut 2½ In. .... \$0.75

One in a Box

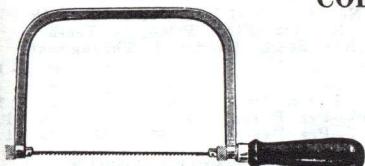
Weight 1 Lb. Each

Birchwood Frames with Ebonized Handles; Index on each Handle shows operator just how far to turn it; Friction regulated by Screws; Blades Best Hardened Steel; used in much the same manner as a Scroll Saw, for cutting Circles and Scrolls, etc.; by Manual Training Students, Mechanics, etc.

No. 280—FRAMES COMPLETE, WITH BLADE  
Length, In.... 12 14 18 20 22 24  
Wt. Ea., Lbs. 1½ 1½ 1½ 1½ 1½ 1½  
Each ..... \$1.25 1.30 1.35 1.40 1.45 1.50

No. B280—EXTRA TURNING SAW BLADES  
Length, In.... 12 14 18 20 22 24  
Wt. Doz., Oz. 3 4½ 6½ 8 10½ 12½  
Each ..... \$0.15 .20 .25 .30 .35 .40

## COPING SAWS



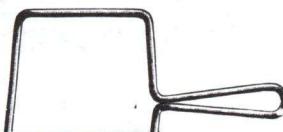
ZENITH

The Blade can be Set and Locked at any Angle, making the Zenith Coping Saw greatly Superior for Accurate and Rapid Work.

Each

Zenith—Nickel Plated, Cold Drawn Steel Back; 6½ in. Blade; 4½ in. between Blade and Back; 4 in. Hardwood Handle, Mahogany Finish ..... \$1.00

One in a Box; Weight ½ Lb. Each

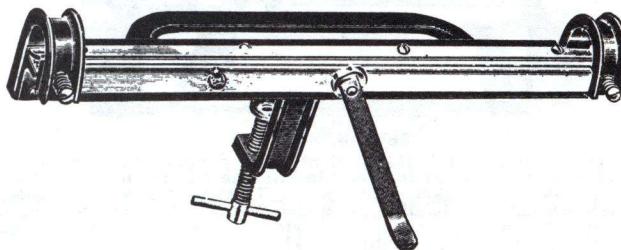


A Low Priced Coping Saw for Boys and Amateurs.

Each  
No. 100—Nickel Plated Steel Wire Frame and Handle; 6 in. Blade; 4 in. between Blade and Back; Length over all 10 in.; with One Dozen Blades ..... \$0.15

One in a Box; Weight 5½ Oz. Each

## SAW VISES OR CLAMPS



## ZENITH IMPROVED FOLDING

## With New Double Locking Device

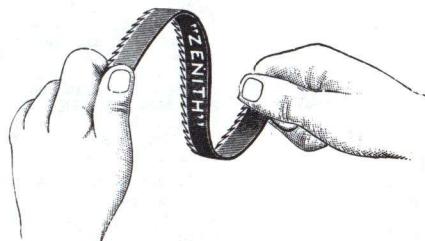
The Locking Device on our New Zenith is easier to lock and unlock and holds the Saw more firmly throughout the entire length of the Front Jaw; requires no Hammer or Screw Driver to operate the Binding Clamp, it is Light and folds into small space.

No. Z4—All Steel, Japanned Frame; Nickel Plated Parts; Length 11 $\frac{1}{2}$  in., Height 3 in.;  
Rubber Cushion underneath Back Jaw. .... \$1.25

One in a Box; Weight 2 $\frac{3}{4}$  Lbs. Each

## HACK SAW BLADES

Use Blades with 14 to 18 Teeth per inch for ordinary work; for Brass or Tubing, use 22 to 26 Teeth; Unless otherwise specified, all orders will be filled with Blades, 14 to 18 Teeth per in.



## No. 250—ZENITH FLEXIBLE

The Teeth only are Hardened, thus allowing the greatest Flexibility without breaking; made of Finest Grade Steel, Tempered by an improved Process; will not Shell off; 18 Teeth to Inch.

Length, In.	8	9	10	12
Width, In.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$
Weight Dozen, Oz.	5	6	7	10
Per Dozen	\$0.67	.75	.85	1.05

## No. 258—ZENITH FLEXIBLE

Special Set, Teeth arranged in series of three, alternating with graduated cut; especially adapted for thin Sheet metal, tubing, etc.; 32 Teeth to inch; Flexible Back.

Length, In.	8	9	10	12
Width, In.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$
Weight Dozen, Oz.	6	6	7	10
Per Dozen	\$0.67	.75	.85	1.05

## ZENITH HARDENED

No. 103—REGULAR Pitch, 18 Teeth  
No. 102—FINE Pitch, 24 Teeth  
Best Steel, Hardened Throughout

Length, In.	8	9	10	12
Width, In.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$
Weight Dozen, Oz.	5	6	7	10
No. 103—Per Dozen	\$0.67	.75	.85	1.05
No. 102—Per Dozen	.67	.75	.85	1.05

## No. 114—ZENITH, POWER

Best Hardened Steel; 14 Teeth to Inch; for Use in Machines or No. 12 Frame

Length, In.	12	14	17	17
Width, In.	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1
Thickness, In.	.032	.032	.032	.049
Teeth to Inch	14	14	14	14
Weight Dozen, Oz.	15	17	20	42
Per Dozen	\$1.25	1.50	1.85	3.00

One Dozen in a Bundle

## ZENITH WOOD OR BUCK SAWS

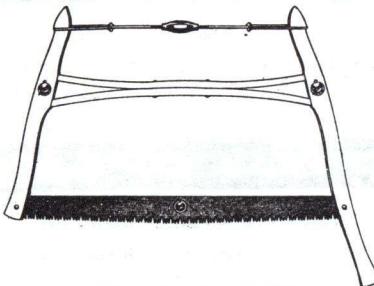
Priced Complete with Different Styles of Blades

Selected Applewood Frame, Natural Oil Finish, Double Braced, Double Riveted, Each End Piece having our Zenith Trade Mark burned in, Samson Tinned Rod; Zenith Round Breasted Blades, 2 Gauges Thinner on Back than on Cutting Edge.

Unconditionally



Guaranteed



Unconditionally



Guaranteed

## APPLEWOOD FRAME

No. Z1—Zenith Frame, complete, with Great American or Needle Point Tooth Blade, as shown above,  $2\frac{1}{4} \times 30$  in., Bright..... Each \$0.85



No. Z2—Zenith Frame complete, with Zenith Champion or Tuttle Tooth Blade;  $2\frac{1}{4} \times 30$  in., Bright..... Each \$0.80

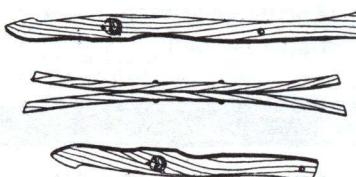


No. Z3—Zenith Frame complete, with Zenith Plain or V Tooth Blade;  $2\frac{1}{4} \times 30$  in., Bright..... Each \$0.80



No. Z4—Zenith Frame complete, with Zenith Plain or V Tooth Blade;  $2\frac{1}{4} \times 30$  in., Blued..... Each \$0.80  
Average Weight of above Buck Saws,  $3\frac{1}{2}$  Lbs. Each

## ZENITH BUCK SAW FRAMES



No. 55—Selected Applewood, Natural Oil Finish; Double Riveted; Zenith Trade Mark burned in; Weight  $2\frac{1}{4}$  Lbs. Each..... Each \$0.25

## BUCK SAW BLADES



## ZENITH

No. Z11—Needle Point or Great American Tooth, 30x2½ in.; Bright; Round Breasted; Two Gauges Thinner on Back; Weight 8 oz. Each.....	Each \$0.50
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## MARSHALL-WELLS HDW. CO.

No. M14—Plain or V Tooth, 30x1½ in.; Narrow Blued Blade; Round Breasted; Weight 5 oz. Each .....	Each \$0.40
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## 48 IN. LONG; MARSHALL-WELLS HDW. CO.

No. M15—Plain Tooth; 48x2½ in.; Bright; Best Quality Steel; Straight; Weight 1 Lb. Each.....	Each \$0.85
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## SWEDISH; EXTRA THIN BACK BLADES

These Blades are 6 and 4 Gauges thinner on Back than on Cutting Edge



## STRAIGHT V TOOTH

No. 42—48x3 in., 6 Gauge Taper; Weight 1½ Lbs. Each.....	Each \$1.25
No. 43—48x2 in., 4 Gauge Taper; Weight ¾ Lb. Each.....	1.00
No. 33—39x2 in., 4 Gauge Taper; Weight ⅔ Lb. Each.....	.75



## CHAMPION OR TUTTLE TOOTH

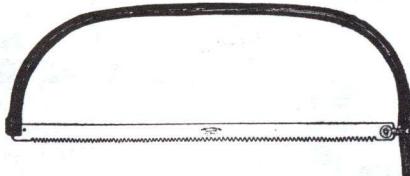
No. 1—30x2 in., 4 Gauge Taper; Weight ½ Lb. Each.....	Each \$0.50
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## PLAIN OR REGULAR V TOOTH

No. 13—30x2 in., 4 Gauge Taper, 3 Teeth to Inch; Weight ½ Lb. Each.....	Each \$.50
No. 14—30x2 in., 4 Gauge Taper, 4 Teeth to Inch; Weight ½ Lb. Each.....	.50

## SWEDISH BUCK SAW FRAMES



## STEEL BOW FRAMES

For Swedish Buck Saw Blades; Made of Tubular Steel, one end is flattened and welded, the other is round

	Each
No. 39—For 39 in. Blades; Weight 3½ Lbs. Each.....	\$1.25
No. 48—For 48 in. Blades; Weight 4½ Lbs. Each.....	1.50

## BAND SAWS



## NARROW BAND SAWS, IN COILS

We can furnish Atkins, Disston, Simonds, Oldham or others

Set and Filed, not Joined; we can furnish these Narrow Saws any length; Specify if wanted  
Brazed; we are prepared to braze these Saws at prices given below.

For use on Band Saw Machines, for Light Resawing and Scroll Work; Saws up to ½ in. are  
for Circular, Larger Sizes for Straight Sawing.

Width, In.	3/16	1/4	5/16	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 5/8	1 1/2	1 13/16
Gauge No.	21	21	21	21	21	20	20	20	20	19	19	19	19
Weight Foot, Oz.	4	4	4	4	4	4	4	4	4	2	2	2	2
Per Foot	\$0.09	.09	.10	.11	.13	.15	.16	.18	.19	.20	.22	.23	.26

For Bronzing, add \$0.50 each; Filing, add \$0.50 each; Setting, add \$0.50 each

## SILVER SOLDER



## For Brazing Joints of Band Saws

## Directions for Brazing

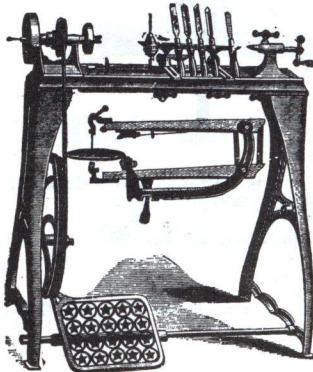
Bevel the ends of saw about ¼ in. and bind firmly together with two or three strands of very fine wire. Fasten the saw in position with the set screws in clamp; place a small piece of silver solder on the lap, and cover with powdered borax. The braze can then be made either with alcohol lamp with automatic blower, or with the common brazing tongs. When the lamp is used, a piece of charcoal placed in the recess in the clamp, above and below the saw, assists in holding the heat and insures a perfect weld. Use the half circle of clamp, when filing the bevel and in finishing up the braze.

	Per Ounce
No. 1—Zenith, Widths 3/16, 1/4, 5/16, 1 in.	\$1.25
No. 2—Oldham, Widths 3/16, 1/4, 5/16, 1 in.	1.75

One Ounce in a Box

## TURNING LATHES AND TOOLS

Japanned Iron Frame, Polished and Nickel Plated Working Parts



Patterned almost exactly after the latest Improved Lathes now used in Machine shops and Pattern Makers' Rooms. Has Two Speeds; Lathe Head has 2 in. Face Plate, Spur Center, Screw Center for turning Cups and a Drill Chuck holding 1-32 to  $\frac{1}{4}$  in. Straight Shank Twist Drills for Wood or Iron. Has Long and Short Tool Rest, Five Turning Tools, Wrench, Drill Points, etc.

The Circular Saw Attachment Consists of a Table 6x7 in., a Saw 3 in. in Diameter and a Saw Arbor.

The Scroll Saw Attachment is secured to Lathe by a bolt.

Each  
No. 11—Length of Bed 24 in.; Distance between Centers 13 $\frac{1}{2}$  in.; Swing of Lathe 5 in.; Emery Wheel 4 $\frac{1}{2}$  x  $\frac{1}{8}$  in.; Height 27 $\frac{1}{2}$  in.; Floor Space 25x15 in. .... \$12.50  
Weight 78 Lbs. Each

## SCROLL SAWS



## CRICKET

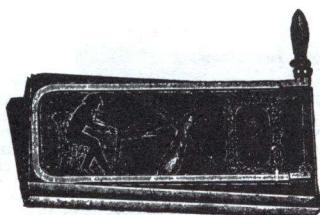
Iron Frame Work, Painted and Japanned Black, Ornamented with Gilt and Red Stripes; Arbors, etc., of best Steel. Selected Ash Arms and Pitman; All Parts Interchangeable; 36 in. High.

Each  
No. 22—With Blower and Drilling Attachment; 8 in. Tilting Table; Complete with 12 Saw Blades, Wrench, Sheet of Designs, Three Drill Points..... \$5.00

One in a Box; Weight 42 Lbs.

Note—We can supply you with many other patterns of Lathes, etc., for Manual Training Work and will gladly quote prices and send description upon application.

## BRACKET SAW SETS



Per-Set  
No. 2—Contains One 5x12 in. Nickel Plated, Spring Steel Frame; Rosewood Handle; 12 Saw Blades; One Awl, Three Sheets of Designs and One Sheet of Impression Paper ..... \$1.35  
One Set in a Box; Weight 1 $\frac{1}{2}$  Lbs. per Set

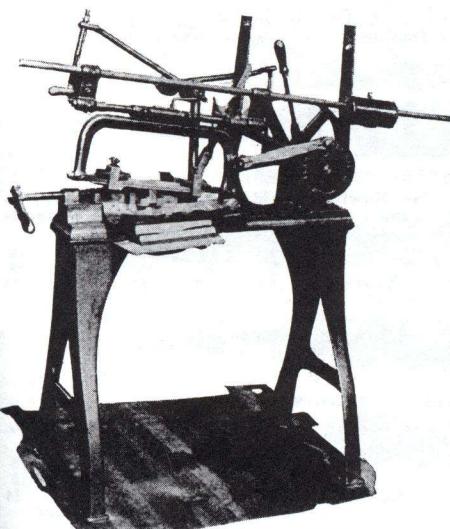
## EXTRA SCROLL AND BRACKET SAW BLADES



## FOR EITHER HAND OR MACHINE SAWS

Size Nos.....	1 to 6	7	8	9	10
Per Doz.....	\$0.10	.12	.15	.18	.20
1 Doz. Wired; 1 Gro. in Box; Wt. 2 Oz. Gro.					

## MARSWELLS FILES



File and Hack Saw Testing Machine.

The machine shown above was worked as follows:

At the end of each 2,000, 4,000, 6,000, 7,000 and other strokes, until worn out beyond practical shop value, filings removed from a standard steel file testing bar were weighed in a chemical balance, capable of measuring the three hundred thousandth part of an ounce. Each lot was separately recorded.

In making files, the first essential is the grade of steel; the second is the case hardening of its outer skin. Next is the angle of the teeth, their uniformity of cut, keeping the chisels always sharp and with the correct bend.

**THE IDEAL SHAPE**

The ideal shape of file has a slight bulge or belly on the face, so that it will bear for the full width.

English files, which at one time controlled the American market, were made heavy and clumsy, so that they might be re-cut and used over and over again. The American machinist knows that when a file is well worn, his time is too valuable, and he throws it into the discard.

**BETTER TO BITE WITH**

The angle of the teeth is important and should be pitched just like you would slant your pocket knife, at a sharper angle on a piece of hardwood, than when whittling a piece of soft pine.

The throat or spacing between the teeth should be wide, to remove the filing chips without choking.

One very important factor, only determined by the magnifying glass, is that the teeth should show serrations or corrugations, just like human or animal's teeth, which give them the advantage of a round pointed shovel digging into the clay. (Some files, however, look like wood snow shovels).

**BEYOND A QUESTION OF A DOUBT**

Marshall-Wells give every Marswells file a

second test before putting it into our stock, drawing a proving bar of standard steel analysis the full length of each side of the file. If the "prover" is cut and the bite feels right, the inspector passes as O. K. If not, that file is rejected.

**HE SAYS THEY ARE ALL TO THE GOOD**

Our laboratory findings have been confirmed many times; the saw filer for the largest loggers in this section of the country reported: "I can sharpen an average of 24 6 foot Cross-Cut Saws with one of these new Marswells 8 inch Special Cross Cut Files."

"Special Cross Cut Files" do not taper in width or thickness. They are single cut on the sides and edges, and the teeth are close and fine, to especially adapt them for filing cross cut saws. The parallel edges allow no overlays of wear and set up no vibration of the saw teeth in the filing.

"Mill Files" taper from near the center to the point and are thin and narrow at the point; some are made with one and others with two round edges, single cut on the sides and edges. They are generally used for filing heavy saws, sharpening planer knives, and for certain kinds of work by mechanics, such as lathe work, draw filings, etc.

On account of having chisel teeth, they leave a comparatively smooth surface, which double cut teeth do not, although the double cut point teeth cut faster. Mill Files may be had in double cut. A single cut file has but one course of chisel cuts across the surface; the cuts are parallel to each other, but oblique across the file blank. A double cut file has two courses of chisel cuts crossing each other (at right angles). The first course is called the "Up-Cut," and its direction being across the first course of chisel, cuts through the over cut. Consequently, the teeth of double cut files are points, and the teeth of single cut files are "chisels."

"Flat Files" taper from center to point, are double cut on sides and single cut on edges. They are generally used by mechanics on coarse and rough work.

"Hand Files" are parallel in width and double cut on sides; one edge is single cut, but the other is not cut, in order that the file may be used in a corner without filing both sides of the angle. They are generally finer than bastard cut, and are used by mechanics for finishing flat surfaces, etc.

"Half Round Files" taper from center to point, are double cut on both sides, and are used for general machine shop work.

"Round Files" are generally forged tapering and nearly always double cut. They are used principally for gulleting, enlarging holes.

"Square Files" are also generally forged tapering and nearly always double cut. They are used where other files cannot be employed, on account of their width, i. e., filing apertures, dressing out square corners, and shafting key seats, etc.

"Taper Saw Files" are made from three cornered steel, are generally single cut and tapering, and have teeth on edges as well as sides. They are also made double cut, as well as blunt (not tapering), and are used for filing hand saws and all small saws.

"Knife Files" taper and are similar in shape to the blade of a pocket knife; they are double cut, and are used for filing keys, the inner angles of the sear, mainsprings of gun locks, and locks of similar shape.

## MILL AND HAND FILES

Mill Files Are Tapering as to Width, Uniform in Thickness and Single Cut; Hand Files Have Parallel Sides, Tapering Thickness and Are Double Cut; Every Marswells File is Tested and Unconditionally Guaranteed.



## MARSWELLS MILL BASTARD (SAW FILES)

Used principally for sharpening Mill Saws; also Mowing Machine Knives and Plows; in Machine Shops for Lathe Work, Draw-Filing and to some extent finishing the several compositions of Brass and Bronze; 8 in. is the best size for Cross Cut Saws

Length, In.	3	4	5	6	7	8	9	10	12	14	16
Weight Each, Oz.	.10	.10	.10	1½	2½	4	5	8	12	20	28
Each	\$0.10	.10	.10	.15	.15	.15	.20	.20	.25	.35	.50



## MARSWELLS MILL BASTARD, ONE ROUND EDGE

There is considerable demand for this style, the round edge better adapting it for Gummimg Saws

Length, In.	8	10	12	14
Weight Each, Oz.	4	8	13	18
Each	\$0.15	.20	.25	.35



## MARSWELLS MILL, SECOND CUT

Used in Saw Mills, Lumbering Camps and by Machinists for Lathe Work, Finishing Purposes, etc., and by Carriage Smiths

Length, In.	6	8	10	12	14
Weight Each, Oz.	1½	4	8	12	20
Each	\$0.15	.15	.20	.25	.40



## MARSWELLS MILL, SMOOTH

For Finishing Work that has been done with a Rough File to get a very fine, smooth surface; used by Machinists, Engineers, etc.

Weight Each, Oz.	½	½	2	4	5	8	12	20	28
Length, In.	3	4	5	6	7	8	9	10	12
Each	\$0.15	.15	.15	.15	.15	.20	.20	.25	.30



## MARSWELLS CROSSCUT SAW FILES

Particularly Adapted for Filing Marswells and Simonds Cross-Cut Saws; Similar to Mill

Length, In.	6	7	8	10	12	14	16
Weight Each, Oz.	1½	2	4	5	8	10	12
Each	\$0.15	.15	.20	.25	.30	.40	.55



## MARSWELLS HAND BASTARD

Parallel as to Width, Taper in Thickness and Double Cut; Used by Machinists and Engineers for finishing flat surfaces. Has one Safe Edge, Adapting it for use in many places where an ordinary File would not do.

Length, In.	6	8	10	12	14	16
Weight Each, Oz.	4	8	13	19	30	47
Each	\$0.15	.20	.25	.35	.50	.65

## HAND, FLAT, WARDING AND KNIFE FILES

Every Marswells File is Tested and Unconditionally Guaranteed



### MARSWELLS HAND SMOOTH

For finishing work that has been done with a Rough File. Used principally in Foundries, Machine Shops, Locomotive Works, etc.

Length, In.	8	10	12	14	16
Weight Each, Oz.	8	12	20	32	41
Each	\$0.25	.30	.45	.69	.80



### MARSWELLS FLAT, BASTARD

Taper Sides, Double Cut Faces

One of the most common Files in use. Not confined to any particular kind of work, but employed by mechanics, generally, for a great variety of purposes; largely used in Machine Shops, Foundries, Locomotive Works, etc.

Length, In.	3	4	4½	5	6	7	8	9	10	12	14	16
Weight Each, Oz.	1	1½	2	2½	3	3½	5	8	10	16	20	36
Each	\$0.15	.15	.15	.15	.15	.20	.20	.25	.30	.45	.55	



### MARSWELLS FLAT, SECOND CUT

Length, In.	6	8	10	12	14	16
Weight Each, Oz.	1½	5	8	16	24	40
Each	\$0.15	.20	.25	.35	.50	.65



### MARSWELLS FLAT, SMOOTH

For finishing the work commenced with a coarse file and for other fine grades of work

Length, In.	4	5	6	7	8	9	10	12	14	16
Weight Each, Oz.	½	1	1½	2½	3½	7	9	15	27	37
Each	\$0.15	.15	.20	.20	.20	.25	.30	.40	.55	.70



### MARSWELLS FLAT WOOD FILES

Coarse, Used to a limited extent by Woodworkers

Length, In.	6	8	10	12	14	16
Weight Each, Oz.	1½	4	12	16	24	36
Each	\$0.15	.20	.25	.30	.40	.55



### MARSWELLS WARDING, BASTARD

Sides Parallel in Thickness, much tapered in width, double cut; used by Jewelers and Machinists and more especially by Locksmiths for filing wards or notches in keys

Length, In.	3½	4	4½	5
Weight Each, Oz.	½	½	½	½
Each	\$0.15	.15	.15	.15



### MARSWELLS WARDING, SECOND CUT

Length, In.	3½	4	4½	5	6	5
Weight Each, Oz.	½	½	½	½	½	
Each	\$0.15	.15	.15	.20	.25	.15



### MARSWELLS KNIFE, BASTARD

Taper Sides, Double Cut; Shape of a knife blade, a wedge from back to edge

Length, In.	3½	4	4½	5	6	8
Weight Each, Oz.	½	½	½	½	1½	4
Each	\$0.15	.15	.20	.20	.25	.30

## HALF ROUND FILES

Every Marswells File is Tested and Unconditionally Guaranteed



## MARSWELLS, HALF ROUND, BASTARD

Taper Sides, Double Cut Faces; Extensively used in Machine Shops, etc.

Length, In.	4	5	6	7	8	9	10	12	14	16
Weight Each, Oz.	.8	1	1½	2	4	5	8	15	22	33
Each	\$0.15	.15	.20	.25	.25	.25	.30	.45	.50	.65



## MARSWELLS, HALF ROUND, SMOOTH

For Finishing the work commenced with a Coarse File

Length, In.	4	5	6	7	8	9	10	12	14	16
Weight Each, Oz.	.3	1	1½	2½	4	5	7	15	22	33
Each	\$0.20	.20	.25	.25	.30	.30	.35	.45	.50	.65



## MARSWELLS, HALF ROUND, CABINET FILES

Wider and Thinner than Half Round Wood; Coarse Bastard; used by Cabinet Makers and Wood-workers generally

Length, In.	8	10	12	14	16
Weight Each, Oz.	4	7½	12	17	25
Each	\$0.30	.45	.60	.80	1.00



## MARSWELLS, HALF ROUND, WOOD FILES

Coarse, generally used by Woodworkers and occasionally on rougher kinds of Brass work

Length, In.	8	10	12	14	16
Weight Each, Oz.	4	8	16	22	33
Each	\$0.25	.30	.40	.50	.65

## HALF ROUND RASPS



## MARSWELLS, HALF ROUND, CABINET RASPS

Taper, Smooth Rasp Cut, wider and thinner than Half Round Wood, used by Cabinet Makers and Woodworkers in general

Length, In.	8	10	12	14	16
Weight Each, Oz.	4	7½	12	18	26
Each	\$0.40	.55	.70	.95	1.20



## MARSWELLS, HALF ROUND, WOOD RASPS

Taper Rasp Cut, Bastard; used by Wheelwrights and Carriage Builders, Plumbers and Marble Workers

Length, In.	8	10	12	14	16
Weight Each, Oz.	4	9	15	21	30
Each	\$0.35	.45	.60	.80	1.00

## TAPER FILES

Every Marswells File is Tested and Unconditionally Guaranteed

For Hand, Butcher, Back and Small Toothing Saws in general



## MARSWELLS, EXTRA SLIM TAPER

Single Cut, Narrow Cross Section is a great advantage on fine tooth saws

Length, In.	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	8	10	12
Weight Each, Oz.	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{2}$	6	11
Each	\$0.10	.10	.10	.10	.10	.10	.15	.15	.20	.25	.40



## MARSWELLS, SLIM TAPER

Single Cut, Similar to Regular Taper, but preferred because of the greater sweep or longer stroke from the same section

Length, In.	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	8	10	12
Weight, Each, Oz.	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{2}$	6	11
Each	\$0.10	.10	.10	.10	.10	.10	.15	.15	.15	.20	.25	.30



## MARSWELLS, REGULAR TAPER

Tapered to small point; Single Cut, Second Cut; mostly used on Hand and Buck Saws

Length, In.	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	7	8	9	10	12
Weight Each, Oz.	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{2}$	2	3	5	7	10	16
Each	\$0.10	.10	.10	.10	.10	.10	.10	.15	.15	.20	.25	.40



## MARSWELLS, DOUBLE ENDER FILES

The 7 in. is the Diam. of a 3 $\frac{1}{2}$  in. Slim Taper; the 10 in. is the sectional size of a 5 in., etc., but twice the lengthThe advantage lies in the less price for two files in one and a good 4 $\frac{1}{2}$  in. Handle included

Length File, Over-all, In.	7	8	9	10
Weight Each, Oz.	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Each	\$0.15	.15	.20	.20

## SPECIAL FILES



## MARSWELLS MAGNETO FILES

Each

No. 50—Length 6 in., Chisel Point; a fine, thin File; long enough to easily reach and clean all parts in a Magneto or other hard places to reach in Automobiles, Gas Engines, Motors, Dynamos, etc.....\$0.25

Each File in a Leather Case



## MARSWELLS SPARK PLUG FILES

Each

No. 60—Length 4 in.; especially designed for cleaning Spark Plug Connections and for all other work requiring a fine, thin, flat File .....\$0.25

## ROUND FILES

## MARSWELLS ROUND BASTARD

Tapering, for enlarging round holes and shaping internal angles

Length, Inches	4	5	6	7	8	9	10	12	14	16
Diam., Large End, In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Weight, Oz.	.10	.15	.15	.15	.15	.20	.20	.25	.35	.50
Each	\$0.10	.10	.15	.15	.15	.20	.20	.25		

## MARSWELLS ROUND, SECOND CUT

Used for the same purposes as Round Bastard above, but for finer work

Length, Inches	4	6	8	10	12	14	16
Diam., Large End, In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
Weight, Oz.	.10	.15	.15	.15	.20	.20	.25
Each	\$0.15	.15	.15	.15	.20	.20	.25

## MARSWELLS ROUND SMOOTH

For Fine Work, or Finishing Work commenced with the Bastard

Length, Inches	3 $\frac{1}{2}$	4	5	6	7	8	9	10	12	14	16
Diam., Large End, In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
Weight, Oz.	.15	.15	.15	.15	.15	.20	.20	.25	.30	.40	.55
Each	\$0.15	.15	.15	.15	.15	.20	.20	.25	.30		

## SQUARE FILES

## MARSWELLS SQUARE BASTARD, TAPER

Double Cut; Used in almost all branches of mechanical industry, principally for enlarging holes of a square or rectangular shape

Length, Inches	4	5	6	7	8	10	12	14	16
Diam., Large End, In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
Weight, Oz.	.15	.15	.15	.15	.15	.20	.25	.30	.45
Each	\$0.15	.15	.15	.15	.15	.20	.25	.30	.60

## MARSWELLS SQUARE BASTARD, TAPER, with One Safe Edge

Length, Inches	4	5	6	7	8	10	12	14	16
Diam., Large End, In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
Weight, Oz.	.15	.15	.15	.15	.15	.20	.25	.30	.45
Each	\$0.15	.15	.15	.15	.15	.20	.25	.30	.60

## MARSWELLS SQUARE BASTARD, BLUNT

Not Tapering, has Parallel Edges; One Safe Edge for Key Seating Purposes

Length, Inches	4	5	6	7	8	10	12	14	16
Diameter, Inches						$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
Weight, Oz.						$2\frac{1}{2}$	$5\frac{1}{2}$	$14$	$27$
Each						\$0.20	.30	.40	.55

## MARSWELLS SQUARE, SMOOTH

For Fine Work, or for Finishing the Work Commenced with a Bastard

Length, Inches	3 $\frac{1}{2}$	4	5	6	7	8	10	12	14	16
Size, Large End, In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Weight, Oz.	.15	.15	.20	.20	.20	.25	.30	.40	.55	.75
Each	\$0.15	.15	.20	.20	.20	.25	.30	.40		

## WEED'S SPECIAL

Slim, Blunt; for Filing Hand Saws, Back Saws, etc.; 4 $\frac{1}{2}$  in. Handle, Brass Ferrule

Length, Inches	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$
Weight, Oz.					
Each					

## MARSWELLS AUGER BIT

Length 7 in.; for Sharpening All Sizes of Auger Bits; the only File that will not wear the Screw and Lip away and spoil the Tool.										Each
										\$0.25

Weight  $\frac{3}{4}$  Oz. Each

## SPECIAL FILES



## MARSWELLS GREAT AMERICAN CROSS CUT

Especially adapted for the teeth of the Great American Toothed Saw

Length, Inches .....	6	8	10
Weight, Oz. ....	2	4	9
Each .....	\$0.15	.20	.25



## MARSWELLS BAND SAW, SLIM BLUNT

Parallel Edges, Single Cut, Second Cut, same section as Slim Taper, but edges are rounded, to prevent filing Band Saw teeth to sharp bottom

Length, Inches .....	6	7	8	10
Weight, Oz. ....	1½	2½	4	7
Each .....	\$0.15	.15	.20	.25



## MARSWELLS CANT SAW OR LIGHTNING

Parallel Edges, Single Cut, Bastard, for Filing M Toothed Cross Cut Saws

Length, Inches .....	6	8	10	
Weight, Oz. ....	1½	4	7	
Each .....	\$0.20	.20	.30	



## MARSWELLS PIT SAW

Parallel Edges, Single Cut, Second Cut, for Pit and Frame Saws

Length, Inches .....	4	4½	5	5½	6	7	8
Weight, Oz. ....	½	½	1½	1½	1½	2½	5
Each .....	\$0.15	.15	.20	.20	.20	.25	.25



## MARSWELLS PLANER KNIFE

For Filing Planer Knives, also used by Farmers for Sharpening Mowing Machine Knives

Length, Inches .....	8	10
Weight, Oz. ....	5	7
Each .....	\$0.20	.25



## MARSWELLS SPRING EYE NEEDLE FILES

For Filing Spring Eye or Sacking Needles; used principally in Northwest and on Pacific Coast

Length, Inches .....	3
Weight, Oz. ....	5½
Each .....	\$0.10

## RASPS



## MARSWELLS FLAT WOOD RASPS

Taper, Rasp Cut, Bastard; for Wheelwrights and Carriage Makers

Length, Inches .....	8	10	12	14
Weight, Oz. ....	5	9	15	24
Each .....	\$0.30	.40	.55	.75



## MARSWELLS HALF ROUND SHOE RASPS

Double Improved; File End, Bastard Cut; Rasp Quarters, Second Cut. Preferred by many Shoemakers to the flat style

Length, Inches .....	8	10
Weight, Oz. ....	5	12
Each .....	\$0.30	.45



## MARSWELLS PLAIN HORSE RASPS

Blunt, Rasp Cut, Coarse. Used by Farriers for smoothing Hoofs of Horses, Oxen and Mules

Length, Inches .....	12	14	15	16 Slim	18 Slim
Weight, Oz. ....	21	28	35	42	44
Each .....	\$0.50	.55	.65	.75	.80



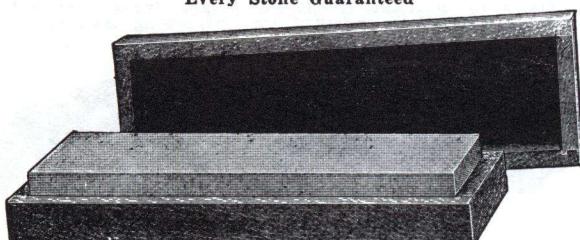
## MARSWELLS TANGED HORSE RASPS

Same as Plain Horse with addition of Tang for a Handle, which some Farriers Prefer

Length, Inches .....	12	14	15	16
Weight, Oz. ....	24	37	42	48
Each .....	\$0.50	.70	.90	1.00

## MARSWELLS SHARPENING STONES

Every Stone Guaranteed



## HARD ARKANSAS, MOUNTED

The Hardest, Finest Grained Stone obtainable; Composed of Pure Silica Crystals, which is Sixteen Times as Hard as Marble; Used by Engravers, Surgeons, Dentists, Jewelers, Wood Carvers and all who require an especially hard, Sharpening Stone. Each  
**No. MHA5**—Size 5x2x1 in.; No. 1 Quality in Polished Cherry Box; Weight 1½ Lbs. Each.....\$2.00

**No. 1 QUALITY SOFT ARKANSAS, MOUNTED** Each  
**No. MSA5**—Size 5x2x1 in.; In Polished Cherry Box; Not as Hard or Fine as the Hard Arkansas; Wt. 1½ Lbs. Each.....\$1.00

**No. 1 QUALITY ALL WHITE WASHITA, MOUNTED** Each  
 For Carpenters and Wood Workers Tools; Similar to Arkansas Stones, but more porous.  
**No. 1MW5**—Size 5x2x1 in.; In Cherry Box; Weight 1½ Lbs. Each.....\$0.55



## SOFT ARKANSAS, NOT MOUNTED

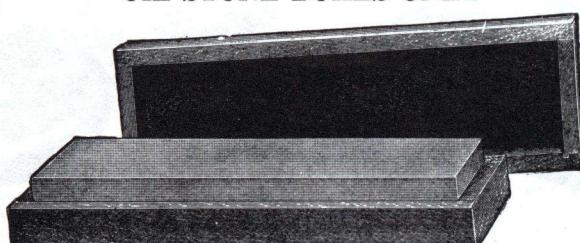
Especially Adapted for Sheep Shearers' Use; also used by all Hard Wood Workers; Not as Hard or Fine Grained as the Hard Arkansas Stones. Each  
**No. SA7**—Size 7x2x1 in.; No. 1 Quality; Weight 1 Lb. Each.....\$2.00

**EXTRA WASHITA** Each  
 Perfectly White Silica Stone; More Porous than Arkansas; Best Natural Stone for Machinists and Carpenters.  
**No. XW7**—Size 7x2x1 in.; Weight 1 Lb. Each.....\$0.60

**No. 1 QUALITY WASHITA** Each  
 A Good General Purpose Stone; Gives a Medium Fine Edge to Wood Workers' Tools.  
**No. 1W7**—Size 7x2x1 in.; Weight 1 Lb. Each.....\$0.40

**QUICK CUT** Each  
 For Mechanics and General Users; a Rapid Cutting, Medium Priced Stone; Gives a Good Edge; Use Oil or Water.  
**No. QC7**—Size 7x2x1 in.; Weight 1 Lb. Each.....\$0.30

## OIL STONE BOXES ONLY



## WOOD MOUNTINGS

We recommend the use of Wood Boxes for Oil Stones, as they keep the Stones Clean and in Good Condition. Our Wooden Boxes are of Solid Oak made in the following sizes: Each  
**No. W4**—For Stone 4x1½x1 in.....\$.25  
**No. W6**—For Stone 6x2 x1 in.....\$.25  
**No. W8**—For Stone 8x2 x1 in.....\$.25

## MARSWELLS SHARPENING STONES

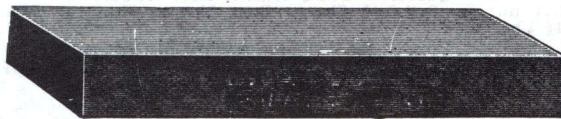
Made from Artificial Ruby Grit; Electrically Fused; are Strong, Fast Cutting and the Longest Wearing Stones made. Especially Adapted for Sharpening Machinists' Tools, Lathe and Planer Knives, etc.



BAUXITE COMBINATION  
One Fine and One Coarse Face  
Especially Adapted for Carpenters and Mechanics

Nos.	Size, In.	Weight Each	Each
BD6	6x2x1	1 Lb.	\$1.00
BD8	8x2x1	1½ Lbs.	1.25

One in a Box



BAUXITE

Nos.	Size, In.	Grain	Each
BF6	6x2x1	Fine	\$0.60
BM6	6x2x1	Medium	.60
BC6	6x2x1	Coarse	.60

One in a Box; Weight 1 Lb. Each

## OIL SLIPS

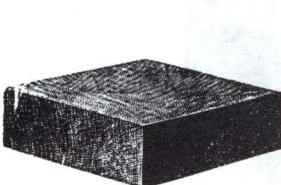


EXTRA WASHITA  
For Machinists and Wood Workers

No. XWS—Size 4x2x $\frac{1}{8}$ to $\frac{1}{4}$ in.	Weight $\frac{1}{8}$ Lb. Each	Each \$0.25
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Weight  $\frac{1}{8}$  Lb. Each

## AXE STONES



WASHITA

Each  
No. WA—Size 2x2x $\frac{1}{8}$  to 1 $\frac{1}{8}$  in.; Wt. 2 Oz. Each.....\$0.08



No. M194—Coarse

No. M194—Coarse; Size 3x1 $\frac{1}{2}$ x $\frac{1}{2}$  in.....\$0.25  
No. M196—Medium and Coarse; 3 in. Diameter,  $\frac{1}{8}$  in. Thick.....\$0.35

Weight  $\frac{1}{8}$  Lb. Each



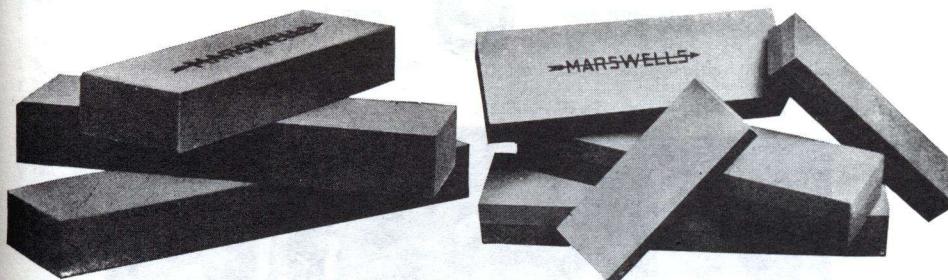
No. M196—Medium and Coarse  
Each

Marswells Diamond Grit Sharpening Stones are Unequalled for Fast Cutting Qualities. May be used dry or with water or oil. If the stone cuts too fast fill with Vaseline. Use Good Light Oil.

## MARSWELLS DIAMOND GRIT SHARPENING STONES

## EACH STONE GUARANTEED

Marswells Diamond Grit Sharpening Stones are made from selected crystals of Carbide of Silicon. Carbide of Silicon is a Chemical Combination of Coke and Sand, blended or fused together under such terrific heat in the Electric Furnace, that it becomes equal to the Diamond in hardness and Cutting Qualities. It is also Infusible and Insoluble, which qualities give it elements of exclusiveness not found in any other Cutting or Grinding Substance, with the exception of Beauxite Stones, listed on the preceding page. It gives to the user the Smoothest and Fastest Cutting Abrasive Substance in Existence.



## BENCH STONES

For chisels, plane irons, planer knives, scrapers, paper cutting knives, and for all tools with broad flat edges. Coarse, Medium or Fine.

Nos.	Size, In.	Grain	Wt. Lbs.	Each
M145	4x1 $\frac{1}{2}$ x $\frac{1}{4}$	Fine (FF)	$\frac{1}{8}$	\$0.25
M142	4x1 $\frac{1}{2}$ x $\frac{1}{4}$	Fine (FF)	$\frac{1}{4}$	.40
M130	6x1 $\frac{1}{2}$ x $\frac{1}{4}$	Fine (FF)	$\frac{1}{2}$	.45
M131	6x1 $\frac{1}{2}$ x $\frac{1}{4}$	Medium (180)	$\frac{1}{2}$	.35
M121	6x2 x 1	Fine (FF)	1	.75
M122	6x2 x 1	Medium (180)	1	.75
M115	8x2 x 1	Fine (FF)	$1\frac{1}{2}$	1.00
M116	8x2 x 1	Medium (180)	$1\frac{1}{2}$	1.00
M117	8x2 x 1	Coarse (120)	$1\frac{1}{2}$	1.00

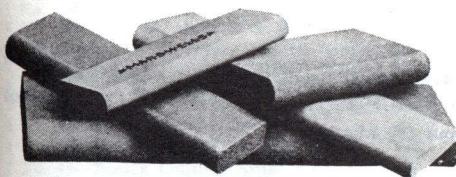
One in a Pasteboard Box

## COMBINATION STONES

Combination Grit Oil Stones are preferred by many mechanics on account of the convenience and economy of having two stones in one. The coarse side is for fast work and the fine side for setting a fine smooth edge.

Nos.	Size, In.	Wt. Lbs.	Each
M112	4x1 $\frac{1}{2}$ x $\frac{1}{4}$	$\frac{1}{8}$	\$0.50
M111	5x1 $\frac{1}{8}$ x $\frac{1}{4}$	$\frac{1}{8}$	.75
M109	6x2 x 1	1	1.00
M110	7x2 x 1	$1\frac{1}{2}$	1.15
M108	8x2 x 1	$1\frac{1}{4}$	1.25

One in a Pasteboard Box



## SLIP STONES

For dies, moulder knives, bead planers, channel knives, gouges, auger bits, instrument makers' tools, and all curved cutting edges. Coarse, Medium and Fine.

Nos.	Size, In.	Grain	Wt. Lbs.	Each
M183	4x1 $\frac{1}{2}$ x $\frac{1}{4}$	Fine (FF)	$\frac{1}{8}$	\$0.50
M181	4x2 x $\frac{1}{8}$ x $\frac{1}{16}$	Medium (180)	.60	
M182	4x2 x $\frac{1}{8}$ x $\frac{1}{16}$	Coarse (120)	.60	

One in a Box

## ROUND COMBINATION BENCH STONE

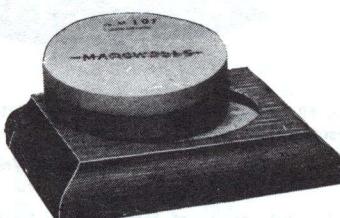
## Medium and Fine Grit

For Sharpening Wide Chisels and Plane Irons. A circular motion over entire surface of stone may be used without loss of motion or hollowing out of the stone.

No. M107C—Size 4x1 in.; in Wood Case.....	\$1.50
No. M107—Without Case .....	1.00

One in a Pasteboard Box

Weight  $\frac{1}{8}$  Lbs. Each



## ZENITH TOOL CABINETS

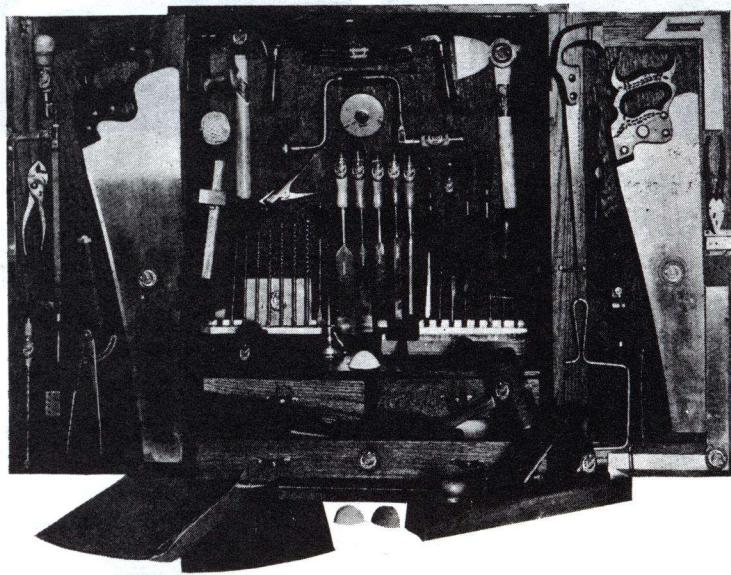
Filled with Zenith and Marswells Guaranteed Tools, selected with Expert Care from our own Stock; A Detailed Description of any Tool shown may be obtained by referring to the Catalog Page on which it is shown.

Cut does not show full line of Tools contained in this Cabinet. Refer to list on following page for contents.

Unconditionally



Guaranteed



Set No. 60—Zenith Wall Cabinet, complete with 114 Highest Grade Tools and Accessories, as described on following page.....\$60.00 Per Set

Shipping Weight about 100 Lbs. per Set

Cabinet is made of Heavy Oak, Antique Finish, Varnished and Hand Rubbed; Panels and Back are Veneered to prevent Warping.

**Inside Dimensions**—Height 31 $\frac{1}{2}$  in., Width 25 in., Depth 9 in.; **Three Inside Drawers**, 3 in. Deep; **Two Paned Doors**, Heavy Brass Hinges; Brass Cylinder Lock with 2 Steel Keys.

*The Zenith Line*

## CONTENTS OF ZENITH TOOL CABINET

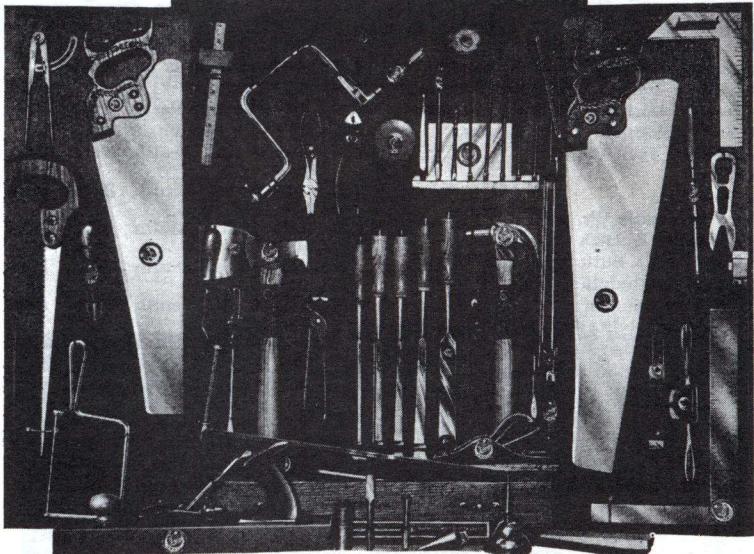
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1 No. ZCIP—Zenith Polished Claw Hatchet  
 1 No. Z11½—Zenith Polished Nail Hammer  
 1 No. Z2R—Zenith Polished Riveting Hammer  
 1 No. Z0—Zenith Polished Ball Pein Hammer  
 1 No. 100—Zenith Polished Tack Hammer  
 1 No. 15—Polished Tack Claw  
 1 No. 743—Vise  
 1 No. 800—Boss Vise  
 1—8 in. Perfect Handle Wrench  
 1 No. 1H—Alligator Wrench  
 1 No. 06—6 in. Zenith Button Pattern Pliers  
 1 No. 17—Zenith Combination Pliers  
 1—8 in. Carpenter Pincers  
 1 No. 18—Zenith Revolving Spring Punch  
 1 No. Z10—Zenith Ratchet Brace  
 1 No. 301—5½ in. Zenith Irwin Pattern Auger Bit  
 1 No. 301—4½ in. Zenith Irwin Pattern Auger Bit  
 1 No. 301—5½ in. Zenith, Irwin Pattern Auger Bit  
 1 No. 301—7½ in. Zenith Irwin Pattern Auger Bit  
 1 No. 301—8½ in. Zenith Irwin Pattern Auger Bit  
 1 No. 301—10½ in. Zenith Irwin Pattern Auger Bit  
 1 No. 301—12½ in. Zenith Irwin Pattern Auger Bit  
 1 No. 1—Zenith Expansion Bit  
 1 No. 109—4½ in. Marswells Bit Stock Drill  
 1 No. 109—5½ in. Marswells Bit Stock Drill  
 1 No. 109—6½ in. Marswells Bit Stock Drill  
 1 No. 109—8½ in. Marswells Bit Stock Drill  
 1 No. 109—10½ in. Marswells Bit Stock Drill  
 1 No. 109—12½ in. Marswells Bit Stock Drill  
 1 No. 109—14½ in. Marswells Bit Stock Drill  
 1 No. 109—16½ in. Marswells Bit Stock Drill  
 1 No. 208—6½ in. Marswells Wood Boring Drill  
 1 No. 208—8½ in. Marswells Wood Boring Drill  
 1 No. 208—10½ in. Marswells Wood Boring Drill  
 1 No. 208—12½ in. Marswells Wood Boring Drill  
 1 No. 208—14½ in. Marswells Wood Boring Drill  
 1 No. 208—16½ in. Marswells Wood Boring Drill  
 1 No. 80—4½ in. German Pattern Gimlet Bit  
 1 No. 80—6½ in. German Pattern Gimlet Bit  
 1 No. 80—8½ in. German Pattern Gimlet Bit  
 1 No. 80—10½ in. German Pattern Gimlet Bit  
 1 No. 13—Wood Handle Gimlet  
 1 No. 55—Zenith Counter Sink  
 1 No. 44—Zenith Counter Sink  
 1 No. 5—Zenith Reamer  
 1 No. 20—Zenith Octagon Reamer  
 1 ½ in. Zenith Screw Driver Bit  
 1 No. 110—Size 6 Zenith Belt Punch  
 1 No. 110—Size 8 Zenith Belt Punch  
 1 No. 30—Zenith Nail Set  
 1 No. 1—½ in. Zenith Cold Chisel  
 1 No. 15—5½ in. Zenith Machine Punch  
 1 No. 51—6 in. Zenith Screw Driver  
 1 No. 53—5 in. Zenith Screw Driver  
 1 No. 82—Sewing Machine Screw Driver

1 No. 3—Automatic Drill  
 1 No. 4—Zenith Awls and Tools  
 1 No. 15—Mallet.  
 9 No. 36—File Handles  
 9 No. 36—File Handle  
 1 No. 105—½ in. Zenith Bevel Edge Cabinet Chisel  
 1 No. 105—¾ in. Zenith Bevel Edge Cabinet Chisel  
 1 No. 105—½ in. Zenith Bevel Edge Cabinet Chisel  
 1 No. 105—¾ in. Zenith Bevel Edge Cabinet Chisel  
 1 No. 105—1 in. Zenith Bevel Edge Cabinet Chisel  
 1 No. 105—1½ in. Zenith Bevel Edge Cabinet Chisel  
 1 No. 60—Spoke Shave  
 1 No. 35—Hand Scraper  
 1 No. 100—8 in. Zenith Draw Knife  
 1 No. Z603C—Zenith Smoothing Plane  
 1 No. Z605C—Zenith Jack Plane  
 1 No. Z18—Zenith Block Plane  
 1 No. 1—8 in. Zenith Wing Divider  
 1 No. Z84—Zenith Marking Guage  
 1 No. 18—Zenith Steel Square  
 1 No. Z20—7½ in. Zenith Try Square  
 1 No. Z25—8 in. Zenith Sliding T Bevel  
 1 No. 62—Full Brass Bound Rules  
 1 No. 20—Carpenter's Apron  
 1 No. 9—25 ft. Zenith Steel Tape  
 1 No. Z0—26 in. Zenith Plumb and Level  
 1 No. Z8—Zenith Plumb Bob  
 1 No. 57½—Size 7½ Chalk Line  
 1 No. 12—Chalk Line Reel  
 1—White Carpenters' Chalk.  
 1—Red Carpenters' Chalk  
 1—Blue Carpenters' Chalk  
 1—26 in. Zenith Special Rip Saw  
 1—24 in. Zenith Special Panel Saw  
 1 No. 6—10 in. Zenith Compass Saw  
 1 No. 66—Zenith Hack Saw  
 1 No. 250—9 in. Zenith Hack Saw Blade  
 1 No. 250—10 in. Zenith Hack Saw Blade  
 1 No. Z5—Zenith Coping Saws  
 1 Doz. No. 6½—Coping Saw Blades  
 1 No. 195—Zenith Saw Sets  
 1 No. 4—Zenith Saw Vise  
 1 No. QC7—Quick Cut Oil Stone  
 1—4 in. Marswells M. B. File  
 1—6 in. Marswells M. B. File  
 1—8 in. Marswells M. B. File  
 1—4 in. Marswells Knife Bastard File  
 1—8 in. Marswells Half Round Bastard File  
 1—4½ in. Marswells Extra Slim Taper File  
 1—5½ in. Marswells Extra Slim Taper File  
 1—6 in. Marswells Regular Taper File  
 1—8 in. Marswells Round Bastard File  
 1 No. 16—Zenith Awl Handle  
 1 No. 3—Brad Awl  
 1 No. 510—Awl  
 1 No. 100—Zenith Scratch Awl

## ZENITH TOOL CABINETS

Filled with Zenith Guaranteed Tools, selected with Expert Care from our own Stock; Cut does not show full line of Tools contained in this Cabinet. See List



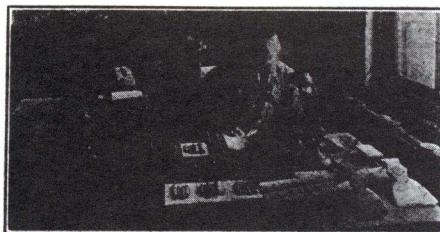
Set No. 40—Zenith Wall Cabinet, complete with 64 High Grade Tools as described below.....\$40.00  
Shipping Weight about 80 Lbs. per Set

Cabinet is made of Heavy Oak, Antique Finish, Varnished and Hand Rubbed; Panels and Back are Veneered to prevent Warping.

Inside Dimensions—Height 30 $\frac{1}{2}$  in., Width 21 in., Depth 7 $\frac{1}{2}$  in.; One Inside Drawer 3 in. Deep; Two Paned Doors, Heavy Brass Hinges; Brass Cylinder Lock with two Steel Keys.

1 No. ZC1P—Zenith Polished Claw Hatchet	1 No. 105— $\frac{3}{4}$ in. Zenith Bevel Edge Cabinet Chisel
1 No. Z114—Zenith Polished Nail Hammer	1 No. 105—1 in. Zenith Bevel Edge Cabinet Chisel
1—6 in. Perfect Handle Wrench	1 No. 64—Spoke Shave
1 No. 06—6 in. Zenith Button Pattern Pliers	1 No. 35—Hand Scraper
1 8-in. Carpenters' Pincers	1 No. 100—8 in. Zenith Draw Knife
1 No. Z110—Zenith Ratchet Brace	1 No. Z3C—Zenith Smooth Plane
1 No. 301— $\frac{3}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. Z5C—Zenith Jack Plane
1 No. 301— $\frac{4}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. Z220—Zenith Block Plane
1 No. 301— $\frac{5}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. 1—6 in. Zenith Wing Divider
1 No. 301— $\frac{6}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. Z84—Zenith Marking Gauge
1 No. 301— $\frac{7}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. 18—Zenith Steel Square
1 No. 301— $\frac{8}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. Z20—6 in. Zenith Try Square
1 No. 301— $\frac{9}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. 84—Half Brass Round Rule
1 No. 301— $\frac{10}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. 20—Carpenters' Apron
1 No. 301— $\frac{11}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. Z0—Zenith Plumb and Level
1 No. 301— $\frac{12}{16}$ in. Zenith Irwin Pattern Auger Bit	1 No. 57 $\frac{1}{2}$ —Size 7 $\frac{1}{2}$ Chalk Line
1 No. 1—Zenith Expansion Bit	1 No. 12—Chalk Line Reel
1 No. 109— $\frac{6}{32}$ Marswells Bit Stock Drill	1—White Carpenters' Chalk
1 No. 109— $\frac{8}{32}$ Marswells Bit Stock Drill	1—Red Carpenters' Chalk
1 No. 109— $\frac{10}{32}$ Marswells Bit Stock Drill	1—Blue Carpenters' Chalk
1 No. 109— $\frac{12}{32}$ Marswells Bit Stock Drill	1—26 in. Zenith Special Rip Saw
1 No. 13—Wood Handle Gimlet	1—24 in. Zenith Special Hand Saw
1— $\frac{3}{8}$ in. Zenith Screw Driver Bit	1 No. 6—10 in. Zenith Compass Saw
1 No. 30—Zenith Nail Set	1 No. Z5—Zenith Coping Saws
1 No. 1— $\frac{1}{4}$ in. Zenith Cold Chisel	12 No. 64—Coping Saw Blades
1 No. 51— $\frac{1}{4}$ in. Zenith Screw Driver	1 No. 195—Zenith Saw Set
1 No. 82—Sewing Machine Screw Driver	1 No. QC7—Quick Cut Oil Stone
1 No. 5—Automatic Drill	1—8 in. Marswells Mill Bastard File
1 No. 4—Zenith Awls and Tools	1— $\frac{5}{4}$ in. Marswells Extra Slim Taper File
1 No. 15—Mallet	1 No. 16—Zenith Awl Handle
2 No. 36—File Handles	1 No. 3—Brad Awl
1 No. 105— $\frac{3}{4}$ in. Zenith Bevel Edge Cabinet Chisel	1 No. 350—Awl
1 No. 105— $\frac{1}{2}$ in. Zenith Bevel Edge Cabinet Chisel	1 No. 510—Awl
	1 No. 410—Awl
	1 No. 100—Zenith Scratch Awl

## ZENITH POCKET KNIVES



Testing Department, Inspecting Defective Pocket Cutlery

Regardless of the price or value of the Zenith knife, nothing but S. & C. Wardlow Extra Refined English Steel is used for blades and every blade receives the same attention in forging, hardening and tempering.

The price of a Pocket Knife depends first, upon the kind of a handle; if it's pearl, the tint of the quality, as indicated by its luster or a high fire; whether it is shadow (the pearl running clear to the end) or is bolstered. (Capped with metal).

Any yellow spots in pearl, are life and count as a blemish.

The number and shape of the blades; the linings, whether steel, brass or German silver; the springs, whether split or full, concealed or visible; the size of the knife; whether it is a standard or a freak pattern; the composition of the handle, all count in making up the cost. But, further than that, it is based on how many perfect knives are made and assembled from, say, 50 dozen parts.

Zenith bolsters must be solid, because a hollow bolster which is first pinned and then soldered will come loose if dropped on a corner. If the bolster falls off, the pin projects, tears the clothes and hands; the blade joints loosen and the knife is worthless.

It is in resistance to the prying strains, keeping the blades always tight, so they do not rock sideways, that the Zenith specification of "always a solid bolster" is most effective.

On the other hand, practically all the German imported knives are hollow bolstered.

Holding a Zenith knife up to the light, to examine the handle coverings, linings and springs, you should see not one speck of daylight, nor spaces for dirt and lint to collect.

We require that Zenith knives shall fit perfectly, both closed and open; that the blades and springs should allow neither hollows nor roughness on top or back.

If you are inspecting a knife, after seeing that the springs, linings and coverings or scales have been properly and closely fitted, see that there is no black putty filler in any otherwise open spaces, which will later drop out and show roughness. Pay attention to the size and weight of the tang (shank) on the blade; the thickness and length of the blade, also its polish, whether full crocused on both sides or one side or only three quarters.

The blades must be perfectly centered and so riveted as to never loosen and climb over on linings or fellow blades.

The nick in the blade which holds it level with the surface, must not be cut too deeply, else the blade will snap at the tang.

The finger nail cut, near the back, should be exposed when the blade is closed. There are too many knives with the nail-cut out of

reach, for these points not to be appreciated.

After opening the blade, see that the back edge of the blade is perfectly flush and in line with the spring.

When we said that the cost of the knife depended upon how many perfect knives there were in a dozen, it means that, though all the Zenith factory operatives work on a piece wage system, still the inspection is most severe. The manufacturer loses the material and the employee loses his labor on all rejected parts.

Many a knife blade is worn on its tang and made unfit for use—blade sticking out like a sore thumb—for lack of a little oil. Take a feather or a straw and just touch in under the tang or blade, so that surplus oil may not discolor the handle.

If a pearl knife, be particular to see that the pearl is not chipped around the rivets or near the bolsters.

We hope you will note especially how bright is the inside of every Zenith Knife. The reinforcement of the end of the spring, turning it over and fitting it tightly, so that it will give a third more openings than any other, makes it last a third longer; makes it the kind of a knife that you love to open and close the blade, to feel it kick as it opens and closes and hear it snap like a watch case.

Compare this ease of opening with any other knife, sharpen it any way you will, like a razor to shave or slash off strips of paper, or bevel the edge like a chisel, if you want to whittle hard wood hickory handles, to prove that the edge of a Zenith knife will not crumble.

An expert can perform many razzle-dazzle tricks with a knife if he properly sharpens it.

Some people have an idea that if they want to buy a really beautiful, fine grade pocket knife, suitable for a gift to a highly prized friend, that they must go to a jewelry store. Just ask to see the small, fine pearls or baby stock knife size Zeniths, that we make a specialty of, for our jewelry trade.

There is a Zenith knife especially designed for every kind of work we know, and you should find a knife for your every need in the Zenith line.

Our most popular styles contain the Harrison patent punch blade, which we consider the best all around knife, for farmer, teamster, mechanic, electrician, fisherman, automobile, or anyone who needs a knife for emergencies, which can be opened with a cold numb thumb or a gloved hand, and have a punch blade, which will drill perfectly round holes of various sizes in harness, in rubber or leather belting, which will scrape insulation from electric wires, with which a carpenter can cope the corner off boards, start screws or make perfect holes for buckle tongues or belt lacing, fix an automobile curtain, tire, and a hundred other uses, not conceived of until the need is felt.

#### MADE IN TWENTY ODD STYLES

The patent on this blade lies in its angular shape, which enables it to be ground on the grindstone and resharpened on an oil stone, time after time, until entirely worn out.

All other so called punch knives, consist of a pointed piece of grooved steel which cannot be resharpened or used for heavy work.

#### THE ZENITH POCKET KNIFE GUARANTEE

There is an unqualified guarantee with every Zenith Pocket Knife, not only as to defects, but as to satisfaction, and we try to be as liberal as possible.

## ZENITH PUNCH KNIVES

Unconditionally Guaranteed

For Farmers and their Boys, Threshers, Mechanics and Linemen.



Zenith Punch Blades can be Sharpened when Dull.

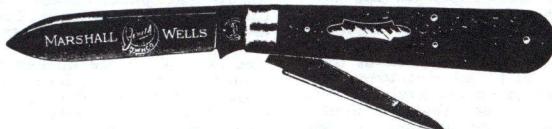


## Zenith Leather Punch Blade in Operation.

Zenith Pocket Knives, fitted with the Harrison Patent Punch Blade, are the most practical Knives on the market for Farmers, Threshers, Mechanics, Carpenters and Linemen. They will not only cut a perfectly round, smooth hole in wood or leather, but linemen find them especially desirable for scraping insulation from wire. One of the strong features is, these blades can be sharpened on an oil or grind stone when they become dull. This cannot be claimed by any other Punch Knife on the market.



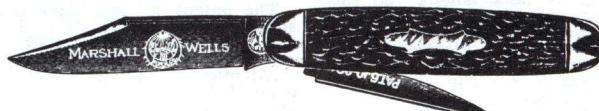
A Punch with this thin edge will become dull almost at once, and no one unskilled can resharpen it. Punches of this description will not cut a neat Hole or keep Sharp; they are difficult to open, and impossible to open with gloves on. They are wavy and uneven on the edge and have no strength, and, being thin, will break as soon as an attempt is made to cut a hole in a thick piece of Leather or Belting. In fact they are little better than an ordinary nail or piece of pointed steel.



## Half Size Cut.

The best Punch Blade Knife ever made to Retail at \$0.75 Each

No. 2072S—Stag Handle; One Blade and Belt Punch; Steel Lined; Brass Rivets; Steel Bolster; German Silver Shield.....\$0.75  
No. 2072R—Rosewood Handle; Otherwise same as above..... .75



## Half Size Cut.

A Good Strong Punch Blade Knife, Smoothly Finished and a Cracker Jack at \$1.00.

No. 2104S—Stag Handle; One Blade and Leather Punch; Brass Lining; German Silver Bolsters and Shield .....\$1.00

## ZENITH POCKET KNIVES

Unconditionally Guaranteed

Pocket Knives and Cutlery Bearing the Zenith Trade Mark are American-made and as near Perfection as Science, Skilled Labor and Over Half Century of Practical Experience can Produce. They are Hand Forged, Hardened and Tempered; Made from S. & C. Wardlow's Extra Refined Cutlery Steel; Each Knife is carefully Hand Honed.



Half Size Cut.

Big Value at \$1.25 and Unconditionally Guaranteed; Every Part of this Knife is made for service. Each

No. 32S—Stag Handle; Two Blades and a Leather Punch; Brass Lining and Rivets; German Silver Bolsters and Shield..... \$1.25

No. 338S—Stag Handle; Large Blade, Sabre Pattern: Otherwise same as Above..... 1.25



Half Size Cut.

This Knife is made in the same careful manner as the No. 32 shown above, but with Spear and Sheep Foot Blades instead of Clip and Spey Blades. Each

No. 30S—Stag Handle; Two Blades and a Leather Punch; Brass Lining and Rivets; German Silver Bolsters and Shield..... \$1.25

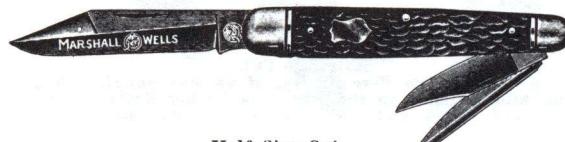
No. 340S—Stag Handle; Large Blade Clip Sabre Pattern; Otherwise same as No. 30S..... 1.25



Half Size Cut.

This is a long well shaped Knife of good proportions and is a real Favorite with many discriminating users. Each

No. 310S—Stag Handle; Two Blades and a Leather Punch; Brass Lining and Rivets; Milled Back; German Silver Bolsters and Shield..... \$1.50



Half Size Cut.

There is a good demand for this Knife, both with Stag Handle and with Red Celluloid Handle; the Red Handle is easily seen if the Knife is laid aside or lost. Each

No. 3009S—Stag Handle; Three Blades (One Punch Blade); Brass Lining; German Silver Bolsters and Shield; Milled Back..... \$1.25

No. 3013R—Red Celluloid Handle; Not Milled Back, Otherwise same as above..... 1.50

## ZENITH POCKET KNIVES

Unconditionally Guaranteed

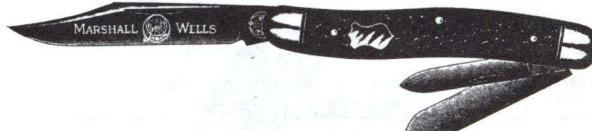


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Half Size Cut.

No. 342P—Pearl Handle; Three Blades; German Silver Lining; German Silver Bolsters..... Each \$2.50  
No. 342S—Stag Handle; Otherwise same as No. 342P..... 1.25



Half Size Cut.

No. 330S—Stag Handle; Three Blades; German Silver Lining, Rivets, Bolsters and Shield; Fancy Milled Back..... Each \$1.50  
No. 354S—Stag Handle; With Sheep Foot Blade, instead of Spey Blade; Otherwise same as No. 330S ..... 1.50  
No. 330P—Pearl Handle; Otherwise same as above..... 2.75



Half Size Cut.

For the man who wants a large Pearl Handle Knife there is nothing better than this \$3.00 one shown here; it is a beauty..... Each \$3.00  
No. 318P —Pearl Handle; Three Blades; German Silver Lining, Rivets, Bolsters and Shield..... \$3.00  
No. 318GS—Genuine Stag Handle; Otherwise same as above..... 1.75  
No. 318S —Stag Handle; Otherwise same as above..... 1.50



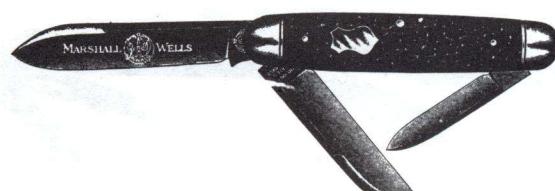
Half Size Cut.

This remarkable Knife with its Five Blades, of various popular shapes is largely used by men who desire something unusual in the way of a Pocket Knife. This is not a freak Knife, but one that can be used for almost every conceivable purpose to which a Jack Knife can be put. Each  
No. 50S—Stag Handle; Five Blades; Three Springs; Brass Lining and Rivets; Milled Back; German Silver Bolsters and Shield..... \$2.00  
No. 50P —Pearl Handle; Otherwise same as above..... 5.00  
No. 300S—Stag Handle; Three Blades, large Clip, Sheep Foot and Spey, Otherwise same as above ..... 1.50  
No. 300P—Pearl Handle; Otherwise same as No. 300S..... 3.50

## ZENITH POCKET KNIVES

Unconditionally Guaranteed

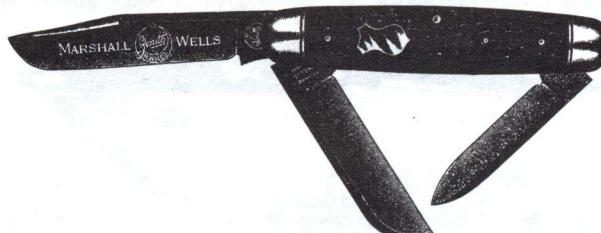
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Half Size Cut. Each

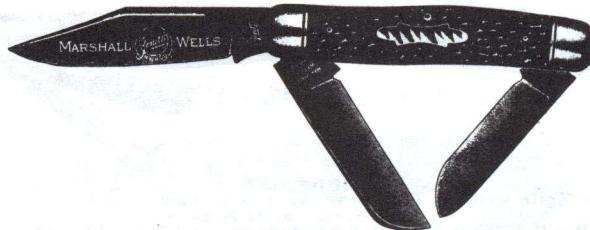
No. 302S—Stag Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield ..... \$1.00

No. 302E—Ebony Handle; Otherwise same as above. 1.00



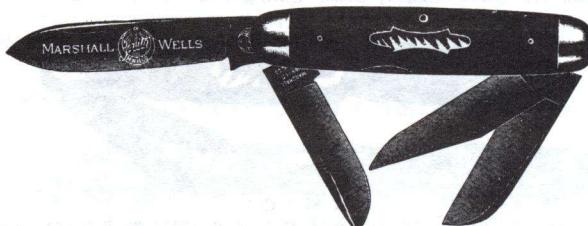
Half Size Cut. Each

No. 306S—Stag Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield ..... \$1.50



Half Size Cut. Each

No. 314S—Stag Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield ..... \$1.50



Half Size Cut.

Our Cut shows this Knife with Ebony Handle, but our Stock has Stag Handle or Pearl Handle; Either one is splendid value for the Price Each

No. 44S—Stag Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield ..... \$1.75

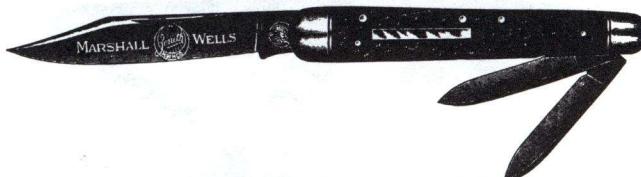
No. 44P—Pearl Handle; German Silver Rivets; Otherwise same as above. 3.75

## ZENITH POCKET KNIVES

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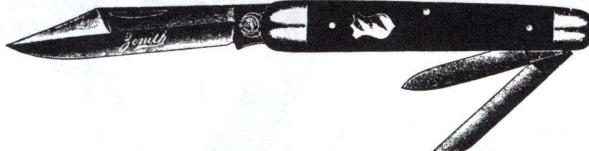


## Half Size Cut.

This Three Blade, Stag Handle Knife is a General Favorite, on account of its long, slim shape and Lock Back; its popular price of \$1.75 each also commends it to the user

Each

No. 393S—Stag Handle; Three Blades; Brass Side Lining; German Silver Center Lining, Rivets, Bolsters and Shield; Lock Spring Back.....\$1.75



## Half Size Cut.

For those who desire a Pocket Knife with Sabre Blade, there is nothing better made; this Knife  
retails at \$1.25 Each

Each

No. 395E—Ebony Handle; Three Blades; Large Blade, Sabre Pattern, Oval Back; Brass Lining; German Silver Rivets, Bolsters and Shield.....\$1.25



## Half Size Cut.

We can furnish this Knife which is  $\frac{7}{8}$  in. long, when large Blade is opened, with either Cocobolo or Stag Handle at \$1.50 Each

Each

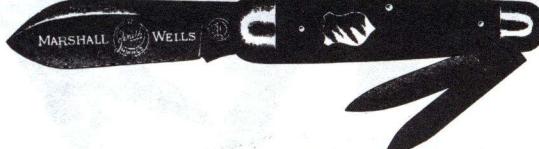
No. 36C—Cocobolo Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield .....

\$1.50

No. 36S—Stag Handle; Otherwise same as above.....1.50

No. 304E—Ebony Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield .....

1.25



## Half Size Cut.

Here's a Big, Strong, Heavy Bladed Knife, which is very popular with many Farmers and others  
who desire a Knife of this kind

Each

No. 34E—Ebony Handle; Three Blades; Brass Lining and Rivets; German Silver Bolsters and Shield .....

\$1.25

No. 34S—Stag Handle; Otherwise same as above.....1.25

No. 344S—Stag Handle; Leather Punch Blade in place of Pen Blade; Otherwise same as  
above .....

1.50

## ZENITH POCKET KNIVES

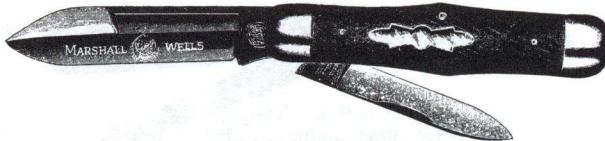
Unconditionally Guaranteed



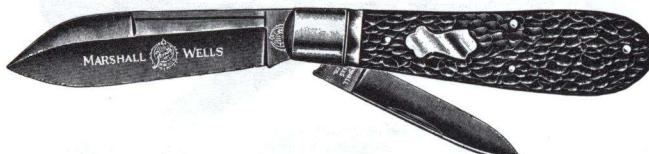
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No. 250S—Stag Handle; Two Blades; German Silver Lining, Rivets, Bolsters and Shield; Fancy Milled Back ..... Each \$1.00



No. 2042C—Cocobolo Handle; Two Blades; Brass Lining and Rivets; German Silver Bolster, Cap and Shield; Large Blade, Sabre Pattern ..... Each \$1.00



No. 2148S—Stag Handle; Two Blades; Brass Lining; German Silver Bolster and Shield ..... Each \$1.25

## ZENITH PRUNING KNIVES



No. 295S—Stag Handle; Two Blades; Steel Lined; with Grooved Steel Bolsters and Rivets; German Silver Shield ..... Each \$1.25

## ZENITH HUNTING AND CAMPING KNIVES



This Hunting Knife has a Heavy Sabre Blade 4½ in. Long; just what is required for Hunting and Camping Purposes. Each  
 No. 124S—Stag Handle; One Sabre Blade; Brass Lining; Steel Bolster; German Silver Cap and Shield; Brass Rivets; Lock Spring Back; Length of Blade 4½ in.; Length of Knife when Open, 10 in.; Hole in Cap to Attach Chain ..... \$2.00

## ZENITH POCKET KNIVES

Unconditionally Guaranteed



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(Half Size Cut)

No. 24S—Stag Handle; Two Blades; Steel Lining, Bolster and Rivets.....

Each  
\$0.35

No. 24E—Ebony Handle; Otherwise same as Above.....

.25

No. 24R—Rosewood Handle; Otherwise same as Above.....

.25



(Half Size Cut)

No. 204E—Ebony Handle; Two Blades; Brass Lining; German Silver Bolster and Shield.....

Each  
\$0.50

(Half Size Cut)

No. 220S—Stag Handle; Two Blades; Brass Lining and Rivets; German Silver Bolster and Shield.....

Each  
\$0.50

No. 220E—Ebony Handle; Otherwise same as Above.....

.50



(Half Size Cut)

No. 234S—Stag Handle; Two Blades; Brass Lining and Rivets; German Silver Cap, Bolster and Shield.....

Each  
\$0.65

No. 234E—Ebony Handle; Otherwise same as above.....

.65



(Half Size Cut)

No. 236C—Cocobolo Handle; Two Blades; Brass Lining and Rivets; German Silver Bolsters and Shield.....

Each  
\$0.65

(Half Size Cut)

No. 260C—Cocobolo Handle; Brass Lining and Rivets; German Silver Bolsters and Shield.....

Each  
\$0.65

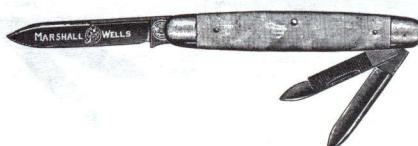
No. 260S—Stag Handle; Otherwise same as above.....

.75

## ZENITH POCKET KNIVES

## Unconditionally Guaranteed

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(Half Size Cut)

No. 3011P—Pearl Handle; Three Blades; Brass Lining; German Silver Bolsters..... Each \$1.50



(Half Size Cut)

No. 261P—Pearl Handle; Two Blades; Brass Lining; German Silver Rivets..... Each \$1.75



(Half Size Cut)

No. 223P—Pearl Handle; Two Blades; Brass Lining; German Silver Rivets, Tips and Shield..... Each \$2.00  
No. 223S—Stag Handle; Otherwise same as above..... .85



(Half Size Cut)

No. 239P—Pearl Handle; Two Blades; German Silver Lining, Rivets and Tips; Milled Front and Back ..... Each \$2.00



(Half Size Cut)

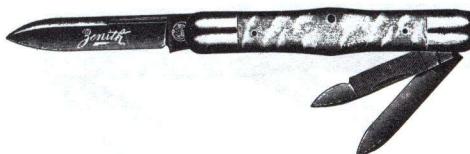
No. 351P—Pearl Handle; Three Blades; German Silver Lining and Rivets; Milled Front..... Each \$2.50

## ZENITH POCKET KNIVES

Unconditionally Guaranteed



Pocket Knives and Cutlery Bearing the Zenith Trade Mark are American-made and as near Perfection as Science, Skilled Labor and Over Half Century of Practical Experience can Produce. They are Hand Forged, Hardened and Tempered; Made from S. & C. Wardlow's Extra Refined Cutlery Steel; Each Knife is carefully Hand Honed.



(Half Size Cut)

No. 347P—Pearl Handle; Three Blades; Brass Lining; German Silver Rivets and Bolsters.....\$1.75 Each



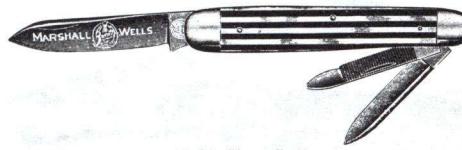
(Half Size Cut)

No. 381P—Pearl Handle; Three Blades; Brass Lining; German Silver Rivets, Bolsters and Shield .....\$2.00 Each



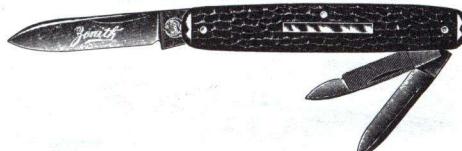
(Half Size Cut)

No. 411P—Pearl Handle; Four Blades; Brass Lining; Milled Back; German Silver Rivets, Tips and Shield .....\$2.50 Each



(Half Size Cut)

No. 3003ZS—Zebra Shell Handle; Three Blades; Brass Lining; German Silver Bolsters.....\$1.00 Each



(Half Size Cut)

No. 303S—Stag Handle; Three Blades; Brass Lining; German Silver Rivets, Bolsters and Shield .....\$1.00 Each

No. 303P—Pearl Handle; No Shield; Otherwise same as above.....1.75 Each

## ZENITH SHEARS AND SCISSORS

The difference between a shear and scissor is not, as is commonly thought, in the length of it, but depends upon the bows. If both bows are of the same round shape, then it is a scissor. If one bow is made small for the thumb and the other is considerably longer, to get in more fingers, then it is a shear, regardless of length.

Are we safe in making the assertion that the men folks use a pair of shears around the house more than the ladies use the men's pocket knives? Then, if shears are more frequently used, and used hours where knives are used for but minutes, why are there so many dull, loose jointed, broken pointed, bent and worthless scissors and shears hacking and chawing in a struggle to give service, when they ought to be in the ash pile?

"Mother, where are your shears?" is probably only exceeded by the cry, "Now, where are my scissors gone?"

You may say that all shears look alike, but the common, cheap ones are only made of cast iron, so brittle that they will often break if dropped hard on the floor. Some are made all-steel, by the Germans, but they are too high in price to satisfy popular demand.

Marshall-Wells' Zenith shears are made on a malleable iron body, which can be twisted at the shank; the blades are overlaid with tool steel on the inside surface. The all-steel shear can be broken on a table edge, while the Zenith may be hurled to the floor with all a man's strength; they may bend but will not break.

The Zenith Shear factory uses a special grade of imported steel for its blades. We will not write here about ore, refined treatment, atmosphere, etc., but you will readily appreciate that, with the Zenith lock bolt and nut, with a right hand thread on the bolt and a smaller left hand thread on the nut; the Zenith Shear Blades are prevented from working loose. This fastening holds them at uniform tension and insures a perfect cutting edge, years after any other fastening has worn until it is loose at the joints, wobbles and refuses to cut.

In comparing shears, the layman can see if the bows are cleanly ground and fitted; he can tell cast steel by pits; he can tell by the feel whether the edges bear perfectly.

We have a specialty in the shear line, that, while not carried under the brand of Zenith, is still worthy of mention. It is especially appreciated by tailors, seamstresses and dressmakers, and any who use a shear day after day.

The Hartford Draw Cut Shear is different from other shears in that the joint screw is off the center, permitting the upper blade to draw back at a wider angle, with less motion of the fingers (and thus spares the hand). The blade which is off-center cuts nearly an inch longer than the other blade, with a V shaped stroke, the sharper angle tending to draw the goods into the angle, something on the principle of the way you would draw a knife if you were trying to shave a stick of hard wood, or like a pruning shear and a cattle dehorner.

The form of the lower blade permits the pattern to be laid on the goods and cut around without pinning, and the shears will not dig into the table.

### ZENITH BARBERS' SCISSORS (Often Called Shears)

Before taking up the scissor line, let us mention something that is not in the ordinary run of scissors, but is made especially for barbers, having two bows of similar design, with an extra tip for the third finger.

While primarily designed for cutting and trimming hair, it is a scissor that a woman could use all day long, because it is light, has a longer leverage, will not tire the hand as much, and will cut cloth as true as its user could desire.

Zenith Barbers' Scissors, like all Zenith Shears, will cut perfectly at every point of the way from joint to tip.

### ZENITH SCISSORS

There are many more scissors sold than shears; some 27 varieties are made out of the same grade of steel, and a plain pattern may be twice the price of a fancy pattern of the same length.

The Zenith line of embroidery, pocket and buttonhole scissors is made in what we think is the best, most modern and largest scissor works in the world. They take infinite pains in tempering, forging and grinding.

Generally speaking, all Zenith Scissors are case hardened, that is, a crust of hard steel is carbonized on top. Grinding may wear away this outer skin and expose the softer under body in other processes, but when the Zenith workman tempers his scissors, he hardens the blade through and through, without warping it.

This is a very delicate and skillful operation, but is necessary to enable the scissors to be ground and reground until there is no blade left to grind, yet still retain a good cutting edge.

Zenith scissors are all hand polished and hand ground throughout, to insure a scissor free from flaws and better fitted than an unintelligent machine would grind them.

It was when certain women's magazines praised fancy work, that we first saw a market for the 3½ inch No. 254 embroidery pattern scissor, with its two sharp points.

Calls for larger sizes soon encouraged the factory to experiment and the result is a sharp pointed scissor in all sizes from 3½ to 6 inches—which we consider the highest art in scissor making.

No. 254 is the finest scissor in our line; full crocused polished, of a light pattern, with perfect finger-fitting bows.

No. 249 is a different style of scissor, but very popular with the trade. The blades of this number are hollow ground, allowing only the cutting edges to touch. This eliminates a good deal of friction and keeps the blades always sharp, with a fine, razor-like edge.

Each Zenith scissor is put up in an anti-rust scabbard and packed in individual boxes.

Zenith Scissors are our ideal of a perfect scissor. They have just the right hang and balance to most easily fit the hand; are not tiring to work with. Every pair has the same smoothness in cutting; the same easy draw-cut stroke, that does the most work with the least effort. Finally, a pair of Zenith Scissors, with ordinary care, will last a life time; the blades can be sharpened and resharpened and the same hard tough cutting edge retained as long as any of the blade remains.

## ZENITH SHEARS

Unconditionally



Guaranteed

Made of Highest Grade English Steel, Perfectly Tempered, Forged and Ground; Every Pair Carefully Tested Before Leaving the Factory.



## Style of Packing Zenith Shears and Scissors

Each Pair is enclosed in an Anti-Rust Scabbard and packed in an Individual Box. This manner of packing presents them in convenient, attractive and salable form and delivers each pair in perfect condition.



## ZENITH BOLT AND NUT

Each Pair of Zenith Shears or Scissors is fitted with the Zenith Right Hand Thread Bolt and Left Hand Thread Nut; This Special Bolt and Nut Prevents the Blades from Working Loose; holds Uniform Tension on Blades and assures Perfect Cutting Edge.

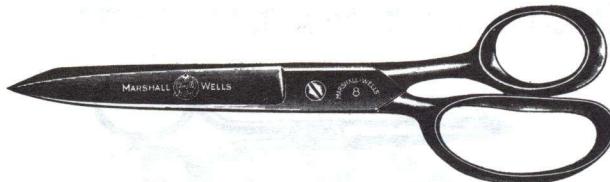
The Material, Workmanship, Finish, Tempering and Cutting Qualities of Zenith Shears are given a severe Cutting Test before leaving the factory and we highly recommend them for Dressmakers' and Tailors' as well as private use.

"Zenith Shears Cut True"

## ZENITH SHEARS

Unconditionally Guaranteed

Highest Grade Shear Steel Laid Blades, Evenly Tempered, Carefully Ground and Set; Fitted Bows; Zenith Right Hand Bolt and Left Hand Nut Prevents Shear from Working Loose



## No. 21—RIGHT HAND STRAIGHT TRIMMERS

The Standard Shear for every Household Purpose; Nickel Plated, Fitted Shear Bows; Oval Shank, Beveled Blades

Length Over-all, In.	6	6½	7	7½	8	8½	9	10
Weight, Oz.	3	4	4	4½	7	7½	9	12
Each	\$0.75	.85	.90	1.00	1.25	1.35	1.50	1.75

## No. 21LH—LEFT HAND STRAIGHT TRIMMERS

Nickel Plated, Fitted Shear Bows; Oval Shank, Beveled Blades

Length Over-all, In.	6	6½	7	7½	8	8½	9	10
Weight, Oz.	3	4	4	4½	7	7½	9	12
Each	\$0.75	.85	.90	1.00	1.25	1.35	1.50	1.75



## No. 22—RIGHT HAND BENT TRIMMERS

Nickel Plated, Fitted Shear Bows; Oval Shank, Beveled Blades

Length Over-all, Inches	6	7	8	9	10
Weight Each, Oz.	3	4	7	9	12
Each	\$0.85	1.00	1.35	1.50	1.75

## No. 22LH—LEFT HAND, BENT TRIMMERS

Nickel Plated, Fitted Shear Bows; Oval Shank, Beveled Blades

Length Over-all, Inches	6	6½	7	7½	8
Weight Each, Oz.	3	4	7	9	12
Each	\$0.85	1.00	1.35	1.50	1.75

## BARBERS' SHEARS

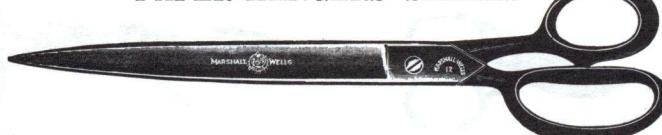


## No. 23—ZENITH, REGULAR PATTERN

For the Barber who wants the Best; Nickel Plated, Fitted Bows; Oval Shank, Beveled Blades

Length Over-all, In.	7	7½	8
Weight, Oz.	3½	4	4½
Each	\$0.90	1.00	1.25

## PAPER HANGERS' SHEARS



## No. 237—ZENITH, HEAVY PATTERN

Paper Hangers require a good heavy Shear, properly tapered and balanced; the Zenith fills every requirement; Japanned Fitted Shear Bows and Oval Shank; Nickel Plated Beveled Blades

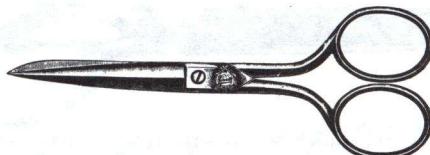
Length Over-all, In.	10	12	14	16
Weight, Oz.	9	10	12	14
Each	\$1.50	2.00	2.50	3.00

## ZENITH SCISSORS



Unconditionally Guaranteed

Made of Highest Grade English Steel, Perfectly Tempered, Forged and Ground; Every Scissor Carefully Tested.



No. 249—ZENITH, HOLLOW GROUND

**Full Nickel Plated; Hollow Grinding** the Blades entirely eliminates friction, leaving only the actual Cutting Edge of the Blades touching, this prevents the Blades springing, which is often the trouble when it is believed the Scissor is dull; The Scissor will cut smoother, stay sharp longer and work easier than any other.

Length Over-all, In.	3½	4	4½	5	5½	6
Each	\$0.65	.70	.75	80	.85	.90

Average Weight 2 to 3 Oz. Each



No. 254—ZENITH, BEVELED BLADES

**Full Crocus Finish; Light Pattern; Fitted Bows; Oval Shank; Beveled Blades; Two Sharp Points**

Length Over-all, In.	3½	4	4½	5	5½	6
Each	\$0.75	.85	.95	1.10	1.25	1.35

Average Weight 2 to 3 Oz. Each



No. 257—ZENITH, BEVELED BLADES

**Gilt and Oxidized Finish Bows and Shank, Crocus Finish, Beveled Blades**

Length Over-all, In.	3½	4½	5½	6
Each	\$0.65	.75	.90	1.00

Average Weight 2 to 3 Oz. Each



No. 270E—ZENITH EMBROIDERY SCISSORS

**Stork; Gold Bows and Body; Nickel Plated Wings and Blades.**

Length Over-all, In.	3½
Each	\$0.65

No. 264BH—ZENITH BUTTON HOLE SCISSORS

**Crocus Finish, Oval Bows with Fancy Swaged Shank and Heavy Beveled Blades; Brass Side Adjustment Screw.**

Length Over-all, In.	4½
Each	\$1.00

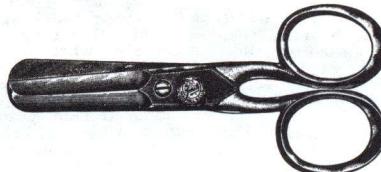
Length Over-all, In.

\$1.00

## POCKET SCISSORS



Zenith Scissors are Made of Highest Grade English Steel, Perfectly Tempered, Forged and Ground; Every Scissor Carefully Tested.



## No. 268P—ZENITH POCKET SCISSORS

Full Nickel, Fitted Bows with Oval Shank and Heavy Swaged Blades; Unconditionally Guaranteed  
 Length Over-all, In. .... 4 4½ 5 6  
 Weight, Oz. .... 2 2 2½ 3½  
 Each .... \$0.80 .90 1.00 1.25

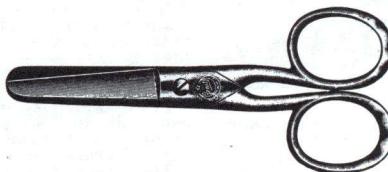
## No. 368P—HARTFORD POCKET SCISSORS

Medium Grade; Otherwise same as Above; Fully Warranted  
 Length Over-all, In. .... 4 4½  
 Weight, Oz. .... 2 2½  
 Each .... \$0.50 .65

## No. 668P—SUPERIOR POCKET SCISSORS

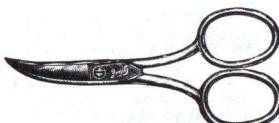
Cast Steel; Brass Bolt with Nut and Washer; Otherwise same as Above  
 Length Over-all, In. .... 4 4½  
 Weight, Oz. .... 2 2½  
 Each .... \$0.35

Each Scissor in a Paper Pocket



## No. 265P—ZENITH POCKET SCISSORS

Extra Finish, Full Nickel, Fitted Bows, Oval Shank and Blades  
 Length Over-all, In. .... 4 4½ 5  
 Weight, Oz. .... 1 2 3  
 Each .... \$0.65 .75 .85



## No. 275N—ZENITH NAIL SCISSORS

Full Nickel; Oval Bows and Shank; Curved Blades, File on Side; Unconditionally Guaranteed.  
 Length Over-all, In. .... 3½ 4  
 Each .... \$0.90 1.00  
 Weight 1 Oz. Each



## No. 2176C—ZENITH CUTICLE SCISSORS

Full Nickel; Oval Bows, Straight Shank, Beveled Blades, Needle Points; Unconditionally Guaranteed.  
 Length Over-all, In. .... 3½ 4  
 Each .... \$1.00 1.25  
 Weight 1 Oz. Each

## ZENITH RAZORS

While some will dispute, still our experience has been that the man who can use it, prefers the old style razor, to any form of safety.

The older razors gave, and still give, a cleaner shave and will reach into the corners around the nose, into the wrinkles and conquer a heavy growth better and with much more dispatch than any guarded blade safety can do.

From all the different styles of razors which we put out under our special brands, such as the Marswells, Red Prince, Vanadium, Barber's Prince, the Zenith Prince, we are going to tell you only about the Durbar, the latest, which we think the choicest razor we, or any one else, have yet offered.

It is made entirely by the highest class of workmen, in the best equipped factory, in the greatest cutlery city of the world.

### ILLUSTRATION OF GRINDING

The chief difference between razors, outside of the quality of the steel and the workmanship, is in the grinding. We illustrate here what is termed the Hamburg double hollow ground and the old style full hollow ground blade, so that anyone may appreciate the advantage of the first, in its improvement over the second.

By drawing the thumb and finger down the sides and over the edge of a Hamburg ground razor, you will feel a swelling near the edge of the blade, not found on the full hollow grinding.

This swelling or ridge puts something behind the delicate edge, to back it up and resist the vibrations of the beard against the edge of the razor.

It is almost impossible for a man with a heavy beard to shave with a full hollow ground razor, without an after-sting, a smarting and burning of his face.

The back ridge of the Hamburg grinding gives the edge a correct angle on the strop, insuring that the most amateurish user may keep a good edge that will need less frequent honing. There is also less danger, in honing, of getting what is termed a wire edge.

The guarantee with every Zenith and Durbar razor reads as follows:

"We Guarantee this Razor to be made from the Highest Grade Razor Steel, forged, ground, finished and honed by hand. Tempering is done only by our own Electric Process which absolutely assures uniformity.

"We further guarantee that every razor is perfectly honed and properly set, ready for use when shipped, and that we will rehone, refinish and put in shaving condition any Zenith Razor returned to us within two years from date of purchase. The razor must be accompanied by this certificate properly dated and signed by your dealer at the time of purchase, and six cents in stamps to cover cost of handling package and postage.

"MARSHALL-WELLS HARDWARE COMPANY"

There is one maker of razor steel who is recognized as the greatest in the world in his line.

So strong is his position that he tells razor manufacturers how much of his product they may buy each year. It is of this steel that the Durbar razor is made and all its grinding is done by hand, on wheels graduated, first large and then small.

Machine grinding detects no difference in the quality, but the keen sense of a hand grinder instantly detects soft spots or in-

equalities in material. He would not continue with that blade but would discard it.

The special features of the Durbar razor, beyond its tempering, grinding and honing, are the straight back and straight cutting edge.

A bullet head on the back edge of the blade prevents scratching of the strop.

Flat sides—something that is entirely new—prevent roughing of the strop.

The Filed tang, for firm finger grasp, does not slip when in use; the Silver gray finish on tang is very striking.

The Flat White celluloid handle, shows good taste.

The Durbar razor is made with a blade 5 inch wide; either square point, for closer work; or round point, for the man who is a bit nervous.

### THIS IS WHY



Position of Ordinary Hollow Ground Blade in stropping. Dotted lines show position of strop. Note that the Strop only touches Back and Extreme Edge.



Position of Zenith Perfect Hollow Ground Blade in stropping. Dotted line shows position of strop. Note how Blade bends to conform to strop.

As anyone who uses a razor readily understands, second only in importance to the razor itself, is the strop. In fact, like buying a watch, where it is better to spend the money on the works than on the case, so with the razor, above all things we recommend a good strop.

Our No. 312 single leather strop, without any canvas or rough leather auxiliary is, in our opinion, the greatest strop that you can buy.

It is a piece of genuine shell horse hide made from the most tender part of the horse's hide, which you may recall certain drivers take advantage of by flicking the horse on those tender spots, on the rump between the hind legs.

Proof that it is shell hide is certain, if you can roll the strop in a coil, bend, twist, crumple and pound, without its showing a sign of cracks or grain.

The ordinary strop will raise the grain if folded flat, only to carry it home in a package; and, on such, the surface cannot be restored.

The canvas web is regarded by experts as a failure. One strap is enough; the back of a shell hide may be filled with a little dressing, and the razor either stropped thereon or honed occasionally, to keep it in perfect condition.

When you are purchasing a razor, do not take the one in the show case, which some expert has been running across his thumb nail or twirling with his finger to hear it snap, etc. Ask for a new razor in a sealed package.

When through shaving, run the razor under warm water, so that the heat will dry every particle of moisture on it; then strop the razor thoroughly and if it is going to be laid away for several days, put a little vaseline on it, to protect the minute saw teeth on the razor edge from any danger of corrosion. It pays to own and use more than one razor, especially the man who shaves every day. He should alternate them giving each, in turn, a week's rest,—all steel under vibration "tires."

## ZENITH RAZORS

Unconditionally Guaranteed

Zenith Razors are Hand Forged From the Highest Grade of English Razor Steel, Hamburg Hollow Ground and Adopted to Hard Usage; Especially Made for Barbers' and Individual Use.



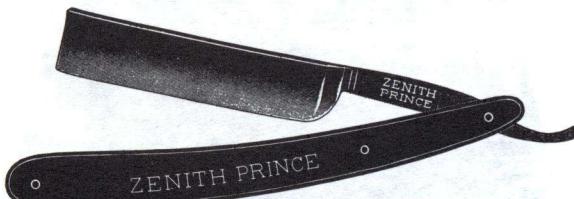
## DURBAR

Ten Reasons Why the Durbar is the Best Razor Made

- 1st. Finest Quality—Exclusive Grade—Special Razor Steel.
- 2nd. Most Perfect Grinding by Expert Grinders.
- 3rd. Most Careful Honing—All Hand Work.
- 4th. Straight Back and Straight Cutting Edge.
- 5th. Bullet Head prevents Scratching the Strop.
- 6th. Flat Sides (entirely new) prevent Roughing the Strop.
- 7th. File Tang, does not slip when in use.
- 8th. Silver Gray Finish on Tang—very striking.
- 9th. Flat White Celluloid Handle—Good Taste.
- 10th. Made completely by the highest class of Union Workmen in the best equipped Razor Factory in the Greatest Cutlery City in the world.

	Each
No. 125— $\frac{5}{8}$ in. Square Point; Flat, White Celluloid Handle.....	\$4.00
No. 135— $\frac{5}{8}$ in. Round Point; Flat, White Celluloid Handle.....	4.00

Each Razor in a Neat Case



## ZENITH PRINCE

	Each
No. 224—Square Point, $\frac{4}{8}$ in.; Flat, Black Handle.....	\$3.50
No. 225—Square Point, $\frac{5}{8}$ in.; Flat, Black Handle.....	3.50
No. 254—Round Point, $\frac{4}{8}$ in.; Flat, Black Handle.....	3.50
No. 255—Round Point, $\frac{5}{8}$ in.; Flat, Black Handle.....	3.50

Each Razor in a Neat Case



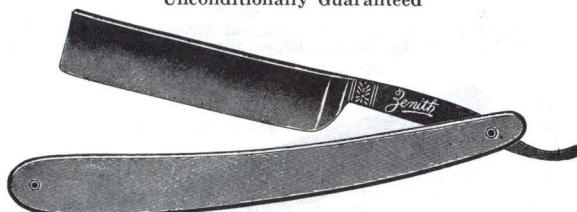
## RED PRINCE

	Each
No. 235—Square Point, $\frac{5}{8}$ in. Blade, Oval Red Handle, German Silver Tips.....	\$3.50

Each Razor in a Neat Case

## ZENITH RAZORS

Unconditionally Guaranteed



## ZENITH

No. 2025—Square Point,  $\frac{5}{8}$  in. Blade; White Galalith Handle.....  
 No. 2035—Round Point,  $\frac{5}{8}$  in. Blade; White Galalith Handle.....

## BARBERS' PRINCE

No. 263—Square Point,  $\frac{5}{8}$  in. Blade, Black Rubber Handle.....  
 No. 264—Square Point,  $\frac{45}{64}$  in. Blade, Black Rubber Handle.....  
 No. 265—Square Point,  $\frac{5}{8}$  in. Blade, Black Rubber Handle.....  
 No. 265½—Square Point; Point Not Honed Otherwise same as No. 265.....  
 No. 266—Square Point,  $\frac{9}{16}$  in. Blade, Black Rubber Handle.....  
 No. 274—Round Point,  $\frac{45}{64}$  in. Blade, Black Handle.....  
 No. 275—Round Point,  $\frac{5}{8}$  in. Blade, Black Handle.....

Each  
\$2.00  
Each  
\$2.00  
Each  
\$2.50  
Each  
\$2.50  
Each  
\$2.50  
Each  
\$2.50  
Each  
\$2.50  
Each  
\$2.50

## RAZOR HONES



## ZENITH RAZOR HONES

Will quickly produce a very Fine, Durable Edge on the most Delicate Steel Instruments.....  
 No. 2—Dark Blue Color, Size  $5\frac{1}{2} \times 2$  in., Mounted in Polished Hardwood Box and Handsomely Labeled.....

Each  
\$1.25

One in a Box; Weight 8 Oz. Each

ZENITH LATHER BRUSHES  
Bristles Set in Rubber; Guaranteed Not to Shed

Each

No. 2041—Polished Boxwood Handle; Black Rubber Ferrule; Long Selected French Bristles; Length of Bristles 2 in.; Diameter at Ferrule  $1\frac{3}{16}$  in.; Length Over All  $5\frac{1}{8}$  in. .... \$0.50

No. 230—Polished Rosewood Handle; Black Rubber Ferrule; Long Selected French Bristles; Length of Bristles  $1\frac{1}{8}$  in.; Diameter at Ferrule  $1\frac{3}{16}$  in.; Length Over All  $4\frac{1}{8}$  in. .... \$0.75

Weight 2 Oz. Each

Each

No. 2016—Select White Bone Handle; Black Rubber Ferrule; Fine Quality Badger Bristles; Length of Bristles  $1\frac{1}{8}$  in.; Diameter at Ferrule  $1\frac{3}{16}$  in.; Length Over All  $4\frac{1}{2}$  in. .... \$1.00

Weight 2 Oz. Each

## ZENITH SWING RAZOR STROPS

Our Zenith Shell Horsehide Razor Strops are made of Choice Imported Selected Shell Horse Hide which eliminates all Animal Matter surrounding the Fibres of the Leather, producing an Elegant Soft and Pliable Surface, making them Unequalled for Quality and Finish; Each Strop is特别 Prepared, making it ready for use; We Guarantee Zenith Razor Strops Never to Gum or become Glossy, and to put a Keen Edge on a Razor at all Times; They are Unsurpassed for Barber's or Individual Use.



ZENITH PRINCE COMBINATION

No. 200—Width 2 $\frac{5}{8}$  in., Length 25 in.; Front, Black Finished Shell Horsehide; Back, Hose Pipe Web Linen; Finished on Both Sides, making 4 Strops in One.....\$2.50



RED PRINCE, DOUBLE LEATHER

No. 202—Width 2 $\frac{5}{8}$  in., Length 25 in., Front and Back, Wine Colored Genuine Horsehide, Natural Trimmings.....\$2.00



PRESIDENT, COMBINATION

No. 206—Width 2 $\frac{1}{4}$  in., Length 24 in., Front, Natural Finished Genuine Shell Horsehide; Back, Hose Pipe Web Linen, Natural Trimmings.....\$1.50



HONEWELL, DOUBLE LEATHER

No. 218—Width 2 $\frac{1}{4}$  in., Length 25 in., Front, Black Finished Shell Horsehide; Back, Red Finished Shell Horsehide; Self Honing; Black Tips; Heavy Nickel Plated Mountings.....\$1.25



SENATOR, DOUBLE LEATHER

No. 216—Width 2 $\frac{1}{4}$  in., Length 27 in., Front, Red Finished Shell Horsehide; Back, Brown Finished Shell Horsehide, Tanned Tips and Padded Handle, Heavy Nickel Plated Mountings.....\$1.00



ZENITH, SINGLE SWING

No. 312—Width 2 $\frac{1}{4}$  in., Length 24 in., Genuine Horsehide, Broke in Ready for use Finish; Open Ring.....\$1.25



CAVALRY, DOUBLE LEATHER

No. 230—Width 2 $\frac{1}{4}$  in., Length 22 in.; Front, Black Finished Genuine Horsehide; Back, Ass Skin, Blue Buff Finish; Tan Tips, Heavy Nickel Plated Mountings; Fitted with Adjustable Split or Open Ring, especially desirable for fastening Strop on Door Knob, Bed Post, etc. ....\$1.00

## ZENITH BUTCHER KNIVES

If butcher knives were used only for cutting meat and did not have to do duty as ice picks, meat cleavers, wood hatchets, splitting wedges, draw shaves, crow bars, pokers, etc., there would not be the exacting requirements which the Zenith knife has been designed to meet.

Although made in various finishes and kinds of wood in the handle, the blades in every number are the same high grade steel and put through the same processes from forging to finishing.

For several years, the market has been flooded with low priced butcher knives which had all the appearance of a high quality knife.

At first, the wholesalers and retailers were surprised at the value apparently received, until the users reported they had over-paid the maker.

These knives had been made by rolling two blades at once, thick backs in the center and then splitting down the center.

They rolled a low carbon, softer steel and eliminated the forging by which Zenith makers hammer out a small square bar into a wide tapering blade.

This refines the steel, breaks it up into minute crystals, toughens it; and, although harder to work, the high carbon is necessary to gain hardness and temper by heat treatment, absolutely requisite to retaining a good edge.

When we first put this line on the market, so confident were we of Zenith quality that we guaranteed to give two good knives for every one found defective.

Since the quality has become recognized and the knives thoroughly introduced, we have ceased to "put up too much collateral" and are simply making the guarantee of replacement of any defectives on an even trade.

In addition to the changes in handle, the

beech handled numbers are made with a regular point and a clip point, which is quite suited to skinning and sticking at a pinch.

The beech handle line is especially shaped that it should not slip from the grasp, while cutting up a quarter of beef or butchering.

We do not know of any other line in which the handles are made with these ends to improve the grip.

All Zenith knives run full length of the handle, and are riveted with brass saw rivets.

Our special pride is the No. 2400 line, made from 6 to 12 inches long, with genuine Madagascar ebony handles, not a stained finish, but the genuine black, through and through.

The very high crocus polish on the blade with its gold stamping, contrasts beautifully with the dead black handle and makes a very pleasing appearance.

The blade is ground  $\frac{1}{8}$  inch back from the edge, to give a strong backing which will not crumble nor give way under strains.

The special test of Zenith butcher knives is that each blade, after being pressed through a half moon block, when released must spring back to its original form.

Every blade is hand honed and tested on paper strips.

The best way to sharpen a butcher knife is on an oil stone.

The several hundred cuts of a butcher's steel give a saw tooth edge to the butcher knife and ordinarily keep it in good condition.

A butcher knife should not be ground on fast revolving emery or corundum wheels by inexperienced operators, lest they draw the temper and spoil the knife. Use the sharpening steel frequently. The good cutter always keeps the steel in one hand and his knife in the other and whets it as often as the barber straps his "razors."

### REMEMBER

Always when you have a knife to buy,  
Take Zenith as best, the price is not high.  
When, for another a tool you choose,  
Insist on Zenith, lest good money he lose.  
Quality often finds the last few cents  
Make all, in the world, the difference  
In selection, grading, culling out  
You'd want first choice, we have no doubt  
In buying a farm, you'd seek good advice  
The returns should be based on the price  
If we pick the best for the Zenith brand  
You do well to follow suit and with us stand.



## ZENITH BUTCHER KNIVES

## Unconditionally Guaranteed

Zenith Butcher Knives are made of High Grade Steel, Carefully Forged, Hardened and Tempered.



No. 2200—Beech Handle, Large Brass Rivets; Highly Finished, Heavy Swaged Blade; a Strong, Serviceable Knife with a Blade which will stand hard usage; Handle is Strongly Riveted

Length Blade, In.	6	7	8	9	10	12	14
Weight per Oz.	4	4½	5	6½	7	10	14½
Each	\$0.35	.45	.60	.75	.85	1.25	1.50



No. 2400—Genuine Madagascar Ebony Handle, Large Brass Rivets; Extra Fine Finished, Heavy Swaged Blade, Clip Point, Gold Etched

Length Blade, In.	6	7	8	9	10	12
Weight per Oz.	4	4½	5	6½	7	10
Each	\$0.65	.85	1.00	1.25	1.50	1.75



No. 2224—Cocobolo Handle, Large Brass Rivets; Extra Fine Finished, Extra Heavy Swaged Blade; Regular Point, Dull Etching

Length Blade, In.	6	7	8
Weight Each, Oz.	4	4	5
Each	\$0.50	.65	.75

## ZENITH STICKING KNIVES



No. 2201—Beech Handle, Length Blade 6 in.; Large Brass Rivets; Highly Finished Blade; Weight 4 Oz..... Each \$0.35

## ZENITH SKINNING KNIVES



No. 2202—Beech Handle, Length Blade 6 in.; Large Brass Rivets; Highly Finished Blade; Weight 4 Oz..... Each \$0.40

## ZENITH TABLE KNIVES AND FORKS



Zenith Medium Table Knives and Forks are Extra Quality, Highly Finished Handles Fitted with Brass Rivets; Patent Four Tined Forks; Cimeter and Swaged Blades

The Knives have the Highest Quality Steel Blade, Perfectly Tempered, Ground and Sharpened, Beautifully Finished Handles and Trimmings, in popular styles and designs. The Forks are the same as the Knives, containing all the same essential features and all are fitted with Four Tines. The Tines are oval in shape, preventing grease or food particles from adhering to them. This insures a Clean, Sanitary Fork.



Patent Four Tined Steel Forks, Furnished with Zenith Knives



## KNIVES AND FORKS

Per Set

No. C204—Cocobolo Handles.....\$1.25  
One Set in a Box

## KNIVES ONLY

Per Dozen

No. C204KO—Cocobolo Handles.....\$1.75



## KNIVES AND FORKS

Per Set

No. C224—Cocobolo Handles.....\$1.50  
No. E224—Ebony Handles.....2.00  
No. B224—Bone Handles.....2.50  
One Set in a Box

## KNIVES ONLY

Per Dozen

No. C224KO—Cocobolo Handles.....\$2.25  
One Dozen in a Box

## ZENITH STEAK KNIVES



No. E22—Polished Ebony Handle, Forged Steel Bolster, with Fancy German Silver Ferrule, Extra Quality, Etched Blades; Length 5½ in.; Length Over-all 9½ in.....\$5.00  
Half Dozen in a Box; Weight 1½ Lbs. per Dozen



No. C22—Ivory Grain Celluloid Handle, Fancy Forged Steel Bolster, Extra Quality Etched Blades; Length 5½ in.; Length Over-all 9½ in.....\$8.00  
No. R22—Hard Rubber Handle, Fancy Forged Steel Bolster, Extra Quality Etched; Length 5½ in.; Length Over-all 9½ in.....\$7.00  
Half Dozen in a Box; Weight 1½ Lbs. per Dozen



No. E24—Ebony Handle, Highly Finished; Three Brass Rivets; Special Steak Blade, Etched; Extra Quality Steel, Perfectly Tempered, Ground and Hand Sharpened.....\$3.00  
Half Dozen in a Box; Weight 1½ Lbs. per Dozen

## ZENITH HOUSEHOLD KNIVES

Unconditionally Guaranteed



## ZENITH HOUSEHOLD

No. 2255—Hexagon Cocobolo Handle, with Rounded End; Length Over All 13 $\frac{1}{2}$  in.; Length of Blade 8 $\frac{1}{2}$  in.; Three Large Brass Rivets Through Tang; Swaged Blade, Polished and Etched; with Crocus Polished Notches in Top.....\$0.75  
Weight 4 Oz. Each

## ZENITH LUNCH KNIVES OR SLICERS



No. 2253—Ebonized Handle; Three Large Brass Rivets; 7 $\frac{1}{2}$  in. Polished Blade, with Crocus Polished Notches in Top.....\$0.65  
Weight 3 Oz. Each



## ZENITH HOUSEHOLD

No. 2254—Ebony Handle, without Bolsters; 9 in. Blade; two large Brass Rivets.....\$0.65  
Weight 4 Oz. Each

## ZENITH BREAD KNIVES

Zenith Bread Knives are High Grade, Carefully Forged, Hardened and Tempered



No. 2265—Ebonized Handle; Steel Ferrule; 8 $\frac{1}{2}$  in. Blade, Serrated Edge; Will cut Hot or Cold Bread.....\$0.35  
One in a Carton; Weight 4 Oz. Each



No. 2267—Cocobolo Handle and Metal Bolster; 8 $\frac{1}{2}$  in. Swaged Blade.....\$0.50  
Weight 4 Oz. Each

## BUTCHER STEELS



No. 230—Zenith; Ebonized Handle, with Ring and Swivel; Highest Quality, Hand Cut, Diamond Guard

Length of Steel, In.	10	12	14	16
Weight Each, Lbs.	$\frac{5}{8}$	1	$1\frac{1}{2}$	$1\frac{1}{4}$
Each	\$0.85	1.00	1.35	1.75

## SLOYD KNIVES

These Knives are made in Eskilstuna, Sweden, from Genuine Dannemora Crucible Steel, the finest material ever produced for Edge Tools. They are in General Use in Manual Training Schools throughout the country and are without dispute the Best Carpenters' Bench Knives made.



	Each
No. 73—Boxwood Handle, Brass Ferrule, Extra Quality Steel Blade, Hand Forged, 3 in. Long; Tang extends through Handle and is Riveted.....	\$0.30
Weight 1 Oz. Each	
No. 72½—With 2½ in. Blade, Otherwise same as No. 73.....	\$0.25
No. 73½—With 3½ in. Blade, Otherwise same as No. 73.....	.35

## ZENITH KITCHEN KNIVES



	Each
No. 2276—Beechwood Handle; 3 in Extra Quality Blade.....	\$0.10



	Each
No. 2279—English Boxwood Handle; 3 in. Extra Quality Swaged Blade.....	\$0.15



	Each
No. 2280—Madagascar Ebony Handle; 3 in. Extra Quality Swaged Blade.....	\$0.20



	Each
No. 2270—White Wood Handle, Three Rivets; 4 in. Extra Quality Blade.....	\$0.20

## SPATULAS OR PALLET KNIVES



## MARSWELLS

	Each
No. 2891—Wire Handle, Thin and Flexible Blade; Nickel Plated; 8 in. Blade.....	\$0.25

## FAMILY CHOPPERS



	Each
No. 252—Swedish Pattern Cocobolo Handle; Through Tang; Hand Forged, Heavy Blade, 2 in. Wide, 8 in. Long; 13½ in. Over-all.....	\$0.75

## ZENITH CARVERS

## Unconditionally Guaranteed



Zenith Carvers are Hammered from Bars of Highest Grade Tool Steel; the Forging, Grinding, Tempering and Finishing is Done by Expert Cutlers; Handle Materials are Selected Stock and are Attached Securely; Caps, Tips and Ferrules are Carefully Fitted.



No. 201—Three Piece; Stag Handle, with 9 in. Turkish Blade; Forged Steel Bolster, German Silver Cap; Fork and Steel to Match.....\$4.50



No. 207—Three Piece; Stag Handle, with 9 in. French Blade; Forged Steel Bolster, Fancy Sterling Silver Ferrule, German Silver Cap; Fork and Steel to Match.....\$5.50



No. 105—Three Piece; Stag Handle, with 8 in. Full Crocus Polished Spanish Blade; Forged Steel Bolster; Sterling Silver Ferrule, German Silver Cap; Fork and Steel to Match.....\$6.50



No. 104—Three Piece; Stag Handle, with 8 in. Full Crocus Polished, Full Swaged French Blade; Forged Steel Bolsters; Sterling Silver Ferrule and Cap; Fork and Steel to Match.....\$7.50

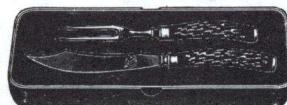
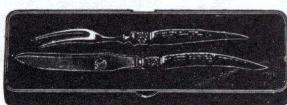


No. 101—Three Piece; Stag Handle, with 9 in. Full Crocus Polished Russian Blade; Forged Steel Bolster; Sterling Silver Ferrule and Cap; Fork and Steel to Match.....\$8.50

## BREAKFAST OR GAME CARVERS



No. 110—Two Piece; Stag Handle, with 7 in. Full Crocus Polished, Spanish Blade; Forged Steel Bolster; Sterling Silver Ferrule; German Silver Cap; Fork to Match.....\$4.50



No. 279—Two Piece; Selected Stag Handle; with 5 in. French Blade; Forged Steel Bolster, Sterling Silver Ferrule; Fork to Match.....\$2.50

No. 281—Two Piece; Selected Stag Handle, with 5 in. Turkish Blade; Forged Steel Bolster, Sterling Silver Ferrule, German Silver Cap; Fork to Match.....\$3.50

All, One Set in a Fancy Lined, Dome Top Box  
Weight 1½ to 2½ Lbs. per Set

## MARSWELLS FEATHERWEIGHT SHOVELS

### NO FOUR O'CLOCK FATIGUE

Twenty years ago a laborer used large sized tools, in axe handles, axes, picks, peavies, etc. He has since learned that the most efficient labor is done with the least exertion against dead weight; that smaller tools, to a certain degree, take less out of a man and enables him to put in a better, harder day's work, with less exhaustion.

We wanted not a smaller shovel, but a lighter shovel, which would stand every use and outwear a first grade six pound shovel but would not weigh more than five pounds, which means using 15 gauge steel in the blade.

The only way to make 15 gauge steel stand all the requirements of 13 gauge thickness was to alloy it and heat treat it.

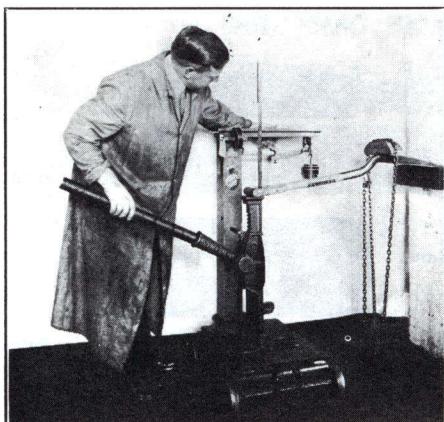
### REACHING THE GOLD

Having first determined our requirements, that the blade must have the highest resistance to wear and that it must under no conditions turn over or blunt on its edge, having investigated all the steels at present being used by shovel makers, having found their weaknesses and arranged to eliminate them, after several years of experiments, laboratory tests and practical workouts, we have a Marswells Featherweight Shovel.

### EARLY RIPE, SOON ROTTEN. EVEN NATURE TAKES HER TIME

We specify that the handles must be of strictly second growth Northern Ash. You might think that Northern Ash is no different from Southern, but the advantage seems to be that as Northern trees only grow six months in the year, it takes them twice as long to mature; the growth has a better grain and seasons better in the eight to twelve months that we require the timber to be air dried, before being placed in the shovels.

To test the shovel and strap, we use the simple apparatus illustrated below:



Shovel Testing

### FEELING ITS MUSCLE

Placing the shovel blade on a block, anchoring a chain around the strap or handle, the handle end resting on a track jack set on the platform scale, we weigh the stress, as the track jack is operated, until the shovel strap bends or its handle breaks.

### NOT AN ALADDIN TRICK

When they take steel that is worth 1c a pound and convert it into armor plate that is worth 20c a pound, there is no magic used—it is simply expert alloying and heat treatment.

The difference between a cheap boy's knife, the edge of which is rounded over on hard wood, and a high grade Zenith pocket knife, is paralleled in the ordinary best grade shovel and this new Marswell heat treated shovel or scoop.

To know that the point was hard, but not too brittle, we insert four inches of the point of the blade into a vise and test it as shown here.

Marshall-Wells' Testing Department has designed a machine for wearing out shovel and scoop blades in a few hours, as practically and as thoroughly as though they had been used for months on a railroad grade or in a locomotive cab.

On account of patent negotiations pending, we will not further describe this than to say that the shovels are run through crushed rock for twelve, sixteen or eighteen hours, until hard-as-granite trap rock is ground to dust and sand.

Before the blades are put into the test they are weighed on precision scales and measured for thickness with micrometers. After the run, the six different blades are weighed and measured for the loss by wear, and critically examined to see whether soft spots have developed; and, most important, how the edge has been affected.

### A LASTING VIRTUE

A Marswells heat treated shovel always preserves its sharp point, while any other shovel, whether low, medium or high carbon steel, will have its edge turned over, blunted and dulled.



Heat Treating a Shovel Blade

## MARSWELLS FEATHERWEIGHT SHOVELS



Testing a Shovel Blade.

## NOTHING DAUNTS IT

One of our most spectacular tests is to clamp a 100 pound anvil in the jaws of a six inch vise, so that the face is held about the height of a man's waist, with the horn toward him. We then freely invite the stoutest fireman to drive a heat treated shovel against the step-up of the anvil face from the horn.

Time and again this chipping impact has shown that the 15 gauge Marswells heat treated blade is not affected, rather does it cut the surface of the horn, while the other ordinary best grade shovels are turned over, split and battered out of shape and the edge is rolled, in a dozen drives.

## A SATIN SKIN

The Marswells Featherweight Shovel has a special finish which we call satin finish. If it does not scour as well as any full polished shovel, we will take it back.

In our investigations, we discovered that the heat treatment formed a hard skin, which is practically a case hardening, on the surface of the blade, and if this were ground off, on the emery wheel, considerable wear of the shovel would be lost.

It is also true, that any black finished shovel is a large per cent better in wearing qualities than the full polished article.

## WE LOOK TO EVERYTHING

We further carry the manufacture of the Marswells shovel down to the finest point in requiring that the straps be tightly welded at every point of contact, must be finished perfectly flush with the handle, and throughout its entire length the stem must be smooth and round.

The rivets, which are carefully centered, are headed over, under machines driving 1100 blows a minute, to perfectly draw and head the rivets, rather than hand driving, which so frequently causes a bend in the middle and weakens the handle.

## ONE ACTUAL ROAD TEST

A transcontinental railroad, when first testing out the new Marswells Featherweight firing scoop, told us that their best scoops formerly had lasted an average of thirty days, and that their new Marswells, after fifty days' use, had not lost the sharpness of the edge.

A shovel must meet many demands in the course of its use. In addition to digging and prying the clay from the banks, moving the rocks and boulders, it must release mired wagon wheels, must replace derailed dump cars, must chop roots as well as a bush hook, must serve as a tamping bar for concrete work and in ballasting railroad ties.



The Marshall-Wells Chemical Laboratory

## MARSWELLS FEATHERWEIGHT SHOVELS

Will Wear Longer and do Most Work with Least Effort



## SQUARE POINT; D HANDLE

No. M4—Size 2; Special Free Scouring Blade, Size  $11\frac{1}{2} \times 9\frac{1}{2}$  in.; made from Special Steel, Heat Treated and Tempered to give Strength and Long Wear; Weight  $4\frac{1}{2}$  Lbs. Each.....\$1.25



## ROUND POINT; D HANDLE

No. M5—Size 2, Special Free Scouring Blade, Size  $11\frac{1}{2} \times 9\frac{1}{2}$  in.; made from Special Steel, Heat Treated and Tempered to give Strength and Long Wear; Weight  $4\frac{1}{2}$  Lbs. Each.....\$1.25



## SQUARE POINT; LONG HANDLE

No. M04—Size 2, Special Free Scouring Blade, made from Special Steel, Heat Treated and Tempered to give Strength and Long Wear.....\$1.25  
Weight 5 Lbs. Each



## ROUND POINT; LONG HANDLE

No. M05—Size 2, Special Free Scouring Blade, made from Special Steel, Heat Treated and Tempered to give Strength and Long Wear.....\$1.25  
Weight 5 Lbs. Each

## HARTFORD FEATHERWEIGHT IRRIGATING

No. H055F—Size 2;  $11\frac{1}{2} \times 8\frac{1}{2}$  in. Blade; This Shovel Weighs Only 4 Lbs. Each and has just the right "Hang" and "Balance" for digging Irrigating Ditches; the "Lift" on this Shovel is 5 in., which is the Regular Shovel "Lift"; Full Polished; Solid Strap.....\$1.25  
No. H057F—With 7 in. "Lift," Otherwise same as above; this Shovel is particularly adapted to Cleaning Out Old Ditches and keeping them in repair without bending over to work.....1.25  
Weight 4 Lbs. Each

## MINING SHOVELS



## MARS FEATHERWEIGHT; D HANDLE

This Shovel will increase the Miner's Efficiency from 5 to 10 per cent; He can do more work and will generally take greater care of this Shovel on account of its unusual Lightness and Balance. Each

No. 670F—Size 2, Special Steel Blade, Size  $11\frac{1}{2} \times 9\frac{1}{2}$  in.; Heat Treated, under a New Process which gives the Blade a Strength or Wear Resistance of Two and One-Half to Three Times that of Best Shovel Steel. This Extra Strength enables us to offer this Featherweight Shovel, weighing only  $4\frac{1}{2}$  Lbs. Each, with the Guarantee that it will wear longer than the heavier Shovels now on the market.....\$1.25  
Weight  $4\frac{1}{2}$  Lbs. Each

## MARS SPECIAL; D HANDLE

No. 670S—Size 2, Special Steel Blade, Size  $11\frac{1}{2} \times 9\frac{1}{2}$  in.; Heat Treated under a new process which gives the Blade over two times the wear of any other Shovel of equal weight.....\$1.25  
Weight 5 Lbs. Each

## ZENITH FORKS

If a storm comes up, the hay is in windrows, the crew are working desperately to get it into the cocks, to shed the water; you hear some excited fellow's fork handle snap—then another digs too deeply—crack, and he's out too—your "bull" hand picks up too much of a bundle—his fork breaks, and three men are idle.

Would you be glad you had saved ten or fifteen cents each on those forks, instead of buying the best to be had?

Taken by the pound weight of the steel that is in the average hay or header fork, it wouldn't be worth over seven cents.

There is nothing that could be done to make steel better, that should be too expensive for the steel goods manufacturer.

His great cost lies in the labor of drawing, shaping, finishing tines, fitting handles, and the cost of the handle itself.

The tines and shank of a three tined hay fork are first one small bar of steel, about  $\frac{3}{8}$  inch thick by  $\frac{1}{4}$  inch wide by six inches long.

The tang is first drawn out and then the bar is split into three parts and the tines drawn until they are 10, 12 or 15 inches long, and taper down to a fine point. The drawing and annealing process continues until forty operations are gone through.

When we first determined to secure the best line of steel goods under the Zenith brand, for hay and header forks, manure forks, rakes, hoes and miscellaneous hand agricultural tools, most of these goods were being made by state prison labor, not cheaply sold, just cheaply made, and nine-tenths of the product was controlled by a trust.

We made a connection with a small independent plant, located in the center of the finest growth of Vermont northern ash.

Trees that grow only half of the year, in a northern climate, mature more slowly, the grain is firmer, the wood is tougher than the southern variety, which, because of greater moisture and heat, does not season so well and becomes flaky grained and brashy, although in appearance they look much the same.

Not a single article that enters into the Zenith Hay Tool line is made by any but a free, independent working man, intelligent, ambitious mechanics, working and living under the most favorable conditions.

In order that it might grow, this factory has been actually forced to make better goods than their powerful competitors.

Their first advantage was in the quality of their handle, as therein lies the greatest cost factor in the hay tool. The next thing was to shape a handle that would be stout where strength was needed, and thin where its spring and elasticity would relieve the wrists from the strain in lifting, pitching, etc. This resiliency is not imagination, tubular steel handles have been tried many times and have failed.

This spring of the handle is the sprightliness of an ankle in walking, as compared to wooden feet.

You have but to take hold of a Zenith handle, run your fingers up and down, to appreciate its perfect smoothness, double sand-papering and waxed finish,—no rough edges to cut or blister the hand; then feel what a splendid grip the swelled, top end gives.

It almost hangs on by itself and relieves the tension of constant, tight gripping.

Glance down along the handle, to see that it is properly hung and lift it, examine the grain to note from the spacing that it is strictly second growth timber, feel the grip, shove the fork along the floor to see that the dish of the tines is correct, admire all its smoothness of fitting at ferrule, and every inch of the tines.

Make a closer inspection of the finish of the tines, their sharp points with the deep, oval shape for strength, and the keen running edge on the bottom, so the tines will slip through more easily; examine the shoulders of the tines, the spacing and spread; be a "crank" on the dish of the fork head, then you can easily verify all that we have told you and will take for granted what we have said about the heat treatment of the steel in the tines.

The Zenith guarantee means something; it isn't a long distance factory promise, but something a Zenith salesman calling every few weeks at our agent's store will make good on sight.

Zenith handles are given three inspections, first a strength test, which eliminates all light weight, brashy, cross grained or knotty handles; second, to cut out those that are not white; third, to eliminate the warped handles as far as possible, for sad but true the toughest handles have a tendency to warp.

If we would permit X grade to be substituted for XX, we could save 5c on each handle and on five handles in a dozen, 25c would be gained. But this is not so, and we will guarantee that every one of the Zenith forks in a dozen has the best possible selection of timber, warranted against defects and against dissatisfaction.

For work in the field, agricultural tools, such as spading and pitching forks, hoes and rakes, represent perhaps the hardest work done on the farm. If the tools are not of the best, they actually represent loss in time, a waste in labor, on work that is ordinarily hard enough under the most favorable circumstances.

You may have some pet test for a fork, such as digging the tines into the floor and then twisting them around on one another; you may bend the outer two tines until they touch at the center, in fact, you can bend them any way, so long as you do not pull the tines outward, and they will always regain their perfect shape.

You can dig the tines in under the quarter round or base board, lay the fork flat and jump on the back of the tines, and you should not hurt them, because Zenith tines are spring tempered and tough.

Sometimes the dealer wants to clamp the ferruled handle in a vise and then strike the tines with a shovel, holding by the D and hitting next to the strap to see what strain of vibration the fork tines will stand. We guarantee you that Zenith forks will set the pace for all other forks in that regard.

Any threshing outfit that has had the experience of a fork head coming loose and dropping into the machine, causing considerable damage and loss of time for the entire crew, when it can be least afforded, should appreciate the pains that we have taken to prevent such an occurrence. With Zenith hay, bundle, header, straw and barley forks, the tangs of the tines are riveted through the ferrule of the fork in such a way that it would be impossible for the fork head to drop off or come loose.

## ZENITH FORKS



Shank Riveted Through Handle

The Zenith Hay and Header Forks have riveted tangs which positively will prevent the Tines from pulling out.

With these Forks there is no possible chance of a loose fork head falling into a threshing machine and thereby causing long delays and expensive repair bills.

Every Zenith Fork is fully guaranteed and replaced free of charge if not perfectly satisfactory in every respect.

It is an expensive operation, but, an additional feature added to make the Zenith forks as near perfect as possible.

Please keep in mind that these Zenith forks have a real rivet, not a round headed tack or nail.

There are other makers using a tack-like rivet in the shank of the fork.

Their hole is nearly twice the size of the rivet; the rivet does not go clear through, it is soon worked loose by digging and pulling and frequently both rivet and tines raise havoc in the threshing machine.

We recommend that strap ferrules be used in all cases, especially where there is any prying, (in spading and manure forks) where the strongest handle is benefited by the steel reinforcing at its bend.

Considering the work of making a fork head, the amount of timber in the handle, and the care in selection, it is remarkable that a common three tine hay or bundle fork can be sold for less than a dollar, and heavier forks, like straw, header, etc., at less than \$1.50.

In potato digging forks, we recommend the 4-foot long or dee handle; in potato hooks, the 5-goose neck round tined is the most popular.

In vegetable scoop forks, the 10 tine, with soft, blunt point, with dish shaped scoop, will not pick up the dirt with the vegetables and slides under and between the piles of potatoes without injury.

In sugar beet forks, ball pointed tines give the same protection to the beets.

In manure forks, the 4 or  $4\frac{1}{2}$  ft. 5-tine seems to be the most popular, the long handle out sells the dee handle by about 5 to 1.

In coal and coke forks, 14 tine for coal and 12 tine for coke give the best satisfaction.

All these special goods, in addition to the regular hay, header, alfalfa, barley forks, are sold with the Zenith guarantee to be Top-of-the-World Zenith Quality in every way.

Every Zenith fork is put up in a paper sack, to keep it clean and free from wood worms.

## ZENITH HAY FORKS

Unconditionally Guaranteed



## ZENITH; THREE TINE, BENT HANDLE

Riveted; 12 in. Oval Tines, 7 in. Spread at Points

## PLAIN FERRULE

Nos.	34BZ	34½BZ	35BZ	35½BZ
Handle, Ft.	4	4½	5	5½
Wt. Each, Lbs.	2½	2½	2½	3
Each	\$0.70	.75	.75	.80

## STRAPPED FERRULE

Nos.	033½BZ	034BZ	034½BZ	035BZ	035½BZ
Handle, Ft.	3½	4	4½	5	5½
Wt. Ea., Lbs.	2½	2½	2½	3	3
Each	\$0.75	.80	.85	.85	.90

## ZENITH; THREE TINE, STRAIGHT HANDLE

Riveted; 12 in. Oval Tines, 7 in. Spread at Points

## PLAIN FERRULE

No.	34Z
Handle, Ft.	4
Weight Each, Lbs.	2½
Each	\$0.75

## STRAPPED FERRULE

Nos.	034Z
Handle, Ft.	4
Weight Each, Lbs.	2½
Each	\$0.80

## BOYS' ZENITH; THREE TINE, STRAIGHT HANDLE

No. 34YZ—10½ in. Oval Tines, Plain Ferrule, 4 ft. Straight Handle; This is a handy Fork for all light purposes..... Each \$0.75

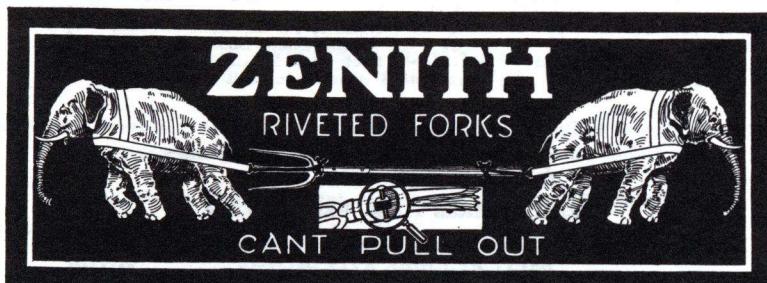
Weight 2 Lbs. Each



## ZENITH; FOUR TINE, BENT HANDLE

Riveted; 12 in. Oval Tines, 7½ in. Spread at Points

Nos.	044BZ	044½BZ	045BZ
Handle, Ft.	4	4½	5
Weight Each, Lbs.	2½	3	3½
Each	\$0.90	.90	.90



Label Used on Zenith Riveted Forks

## HEADER FORKS



Zenith, Four Tines; Bent Handle

**ZENITH, ROUND SHOULDER**  
Riveted; 16 in. Oval Tines, 11 in. Spread at  
Points

Nos.	RO164Z	RO164½Z	RO165Z
Handle, Ft.	4	4½	5
Weight Each, Lbs.	3½	4	4
Each	\$1.25	1.25	1.30

**ZENITH, ROUND SHOULDER**  
Riveted; 15 in. Oval Tines, 11 in. Spread at  
Points

Nos.	RO154Z	RO154½Z	RO155Z
Handle, Ft.	4	4½	5
Weight Each, Lbs.	3½	3½	3½
Each	\$1.20	1.20	1.25

**ZENITH, KANSAS DEEP DISH**

Riveted; 15 in. Oval Tines, 11 in. Spread at  
Points

This Fork is similar to the No. RO154Z but has a Deeper "Dish" to the Tines and consequently they do not lie as close to the ground.

Nos.	KO154Z	KO154½Z
Handle, Ft.	4	4½
Weight Each, Lbs.	3½	3½
Each	\$1.25	1.25



Zenith, Dakota; Four Tines; Bent Handle

Riveted; 16 in. Oval Tines, 12½ in. Spread at Points; Strapped Ferrule

Large Capacity and Very Light; Popular in Wheat Fields of the Northwest and where Grain is of Large Bulk and Light Weight

**ZENITH, SQUARE SHOULDER**  
Riveted; 15 in. Oval Tines, 11 in. Spread at  
Points

Nos.	SO154½Z	SO155Z
Handle, Ft.	4½	5
Weight Each, Lbs.	2½	3
Each	\$1.20	1.25

Nos. .... DO164Z DO164½Z DO165Z

Handle, Ft.	4	4½	5
Weight Each, Lbs.	3½	3½	3½
Each	\$1.25	1.30	1.40



Zenith, Champion, Four Tines, Bent Handle

Riveted; 16 in. Oval Tines, 11 in. Spread at  
Points; Strapped Ferrule

Nos.	NO164Z	NO165Z
Length Handle, Feet	4½	5
Weight Each, Lbs.	3½	3½
Each	\$1.25	1.35

Riveted; 14 in. Oval Tines, 9 in. Spread at  
Points; Strapped Ferrule

Nos.	JO144Z	JO145Z
Handle, Ft.	4½	5
Weight Each, Lbs.	3½	3½
Each	\$1.15	1.20



Zenith, Three Tines, Bent Handle

Riveted; 15 in. Oval Tines, 10 in. Spread at Points; Strapped Ferrule

Nos.	03154½Z	03155Z
Length Handle, Feet	4½	5
Weight Each, Lbs.	3½	3½
Each	\$1.15	1.20

## ALFALFA FORKS



ZENITH, FOUR TINES, BENT HANDLE

Riveted; 13 in. Oval Tines, 10 in. Spread at Points; Strapped Ferrule

Nos.		A0134½Z	A0135Z
Length Handle, Feet		4½	5
Weight Each, Lbs.		3½	3½
Each		\$1.15	1.20

## BARLEY FORKS



Cut Shows Strapped Ferrule

## ZENITH, WITH WIRE BAIL

For handling Barley or Loose Grain; far Superior to a Wood Barley Fork in Strength, Durability and Service; the Wire Bail makes it possible to carry all the load the fork can pick up.

Riveted; 18 in. Tines; 15 in. Spread at Points; 5 Foot Bent Handle; Steel Spring Wire Bail

PLAIN FERRULE		STRAPPED FERRULE	
Nos.	B185Z	B505Z	BO185Z
No. of Tines	4	5	4
Weight Each, Lbs.	4	4½	4½
Each	\$1.35	1.85	1.40
		Each	1.90

## D HANDLED SPADING FORKS

## Malleable D Head

As a Digging Tool, these Forks are superior to a common Spade, either in the garden or on the farm; they are used, principally for digging and breaking up the soil, but are also used for getting out potatoes and other vegetables that are not pulled.



Cut Shows Strapped Ferrule

## ZENITH, 4 FLAT TINES

11½ in. Heavy Diamond Point, Flat Tines, 7½ in. Spread at Points

Each	Each
No. FDZ—Plain Ferrule; Weight 4½ Lbs. Each	No. FODZ—Strapped Ferrule; Weight 4½ Lbs. Each

## ZENITH, FOUR ANGULAR TINES

11½ in. Heavy Diamond Point Angular Tines, 7½ in. Spread at Points

Each
No. OHDZ—Strapped Ferrule; Weight 4½ Lbs. Each

## ZENITH, FIVE ANGULAR TINES

11 in. Heavy Angular Tines, 7½ in. Spread at Points; For Moderately Loose Ground

Each
No. 05HDZ—Strapped Ferrule; Weight 4½ Lbs. Each

## LONG HANDLED MANURE FORKS



Cut Shows Strapped Ferrule

## ZENITH, FOUR TINE

Four 12½ in. Oval Tines; 9 in. Spread at Points; Bent Handle; Used Chiefly Where Manure Is Coarse and Mixed With Stalks

## PLAIN FERRULE

No. ....	44Z
Handle, Ft. ....	4
Weight Each, Lbs. ....	3
Each ....	\$0.80

## STRAPPED FERRULE

Nos. ....	044Z
Handle, Ft. ....	4
Weight Each, Lbs. ....	3½
Each ....	\$0.85

## ZENITH, FIVE TINE

Five 12½ in. Oval Tines, 9½ in. Spread at Points, Bent Handle; For General Purpose Work

## PLAIN FERRULE

Nos. ....	54Z
Handle, Ft. ....	4
Weight Each, Lbs. ....	3½
Each ....	\$1.10

## STRAPPED FERRULE

Nos. ....	054Z
Handle, Ft. ....	4
Weight Each, Lbs. ....	3½
Each ....	\$1.15

## ZENITH, SIX TINE

For Handling Fine Manure and for Finishing Unloading, General Cleaning up about Stable, etc.

Six 12½ in. Oval Tines, 10 in. Spread at Points, Bent Handle

## PLAIN FERRULE

No. ....	64Z
Handle, Ft. ....	4
Weight Each, Lbs. ....	4
Each ....	\$1.20

## STRAPPED FERRULE

Nos. ....	064Z
Handle, Ft. ....	4
Weight Each, Lbs. ....	4
Each ....	\$1.30

## D HANDLED MANURE FORKS



Cut Shows Strapped Ferrule

## ZENITH, FOUR TINE

Four 12 in. Oval Tines, 9½ in. Spread at Points, Bent Handle, Malleable D Head

No. 04DZ—Strapped Ferrule; Weight 3½ Lbs. Each.....

Each \$0.95

## ZENITH, FIVE TINE

Five 12½ in. Oval Tines, 9½ in. Spread at Points; Bent Handle; Malleable D Head

Each  
No. 5DZ—Plain Ferrule; Weight 3½ Lbs.  
Each ..... \$1.15

Each  
No. 05DZ—Strapped Ferrule; Weight 3½ Lbs.  
Each ..... \$1.35

## ZENITH, SIX TINE

Six 12½ in. Oval Tines, 10 in. Spread at Points; Malleable D Head; Frequently Used for Digging Potatoes, Where the Soil is Very Light

No. 06DZ—Strapped Ferrule; Weight 3½ Lbs. Each.....

Each \$1.40

## POTATO DIGGING FORKS



Cut Shows Strapped Ferrule, Long Handle

Six 11 in. Heavy Round Polished Blunt Tines, 9 in. Spread at Points; Strapped Ferrule

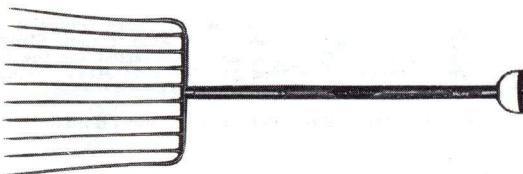
## ZENITH, LONG HANDLE

Each  
No. P064Z—Long 4 Foot Handle; Weight 4½ Lbs. Each..... \$1.20

## ZENITH, D HANDLE

Each  
No. P06DZ—Malleable D Handle; Weight 4½ Lbs. Each..... \$1.25

## BEET AND VEGETABLE FORKS



## ZENITH, SUGAR BEET FORKS

Seven Ball-Point, Black Tines, 16 in. Long; 15 in. Wide at Points

Scoop shaped so that the Fork has Large Capacity and can be Loaded to the Head without Raising the Points, or bruising the Vegetables.

No. 037DZ—7 Tines, 16 in. Long; 15 in. Wide at Points; Strapped Ferrule; Malleable D Head; Weight 7 Lbs. Each..... \$1.90

## ZENITH, VEGETABLE SCOOP FORKS

Does not pick up dirt from the floor with the vegetables; Points are Flat and Blunt.

16 in. Broad Oval Tines; Light and Strong; Malleable D Handle, Strapped Ferrule, Black Finish.

No. 908Z—8 Tines, 12 $\frac{1}{2}$  in. Wide; Weight 6 $\frac{1}{2}$  Lbs. Each..... \$1.65

No. 910Z—10 Tines, 15 in. Wide; Weight 7 Lbs. Each..... 1.90

No. 912Z—12 Tines, 18 in. Wide; Weight 8 $\frac{1}{2}$  Lbs. Each..... 2.25

## POTATO AND MANURE HOOKS



## POTATO HOOKS

Bent Head, 4 $\frac{1}{2}$  ft. Handle

No. 4BHFMZ—Four Flat 7 in. Tines; 6 $\frac{1}{2}$  in. Spread at Points..... \$0.75

Weight 2 $\frac{1}{2}$  Lbs. Each

Each

No. 4BHDZ—Four Diamond Back 7 in. Tines; 6 $\frac{1}{2}$  in. Spread at Points..... \$0.75

Weight 2 $\frac{1}{2}$  Lbs. Each



## POTATO HOOKS

7 in. Round Tines, Goose Neck, 4 $\frac{1}{2}$  ft. Handle

Nos. ....	4GNRZ	5GNRZ	6GNRZ
Number of Tines.....	4	5	6
Spreads at Points, In.....	6 $\frac{1}{2}$	6 $\frac{3}{4}$	7 $\frac{1}{4}$
Weight Each, Lbs.....	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{1}{4}$
Each .....	\$0.65	.80	.85

## MANURE HOOKS

No. M40Z—Four Oval 9 in. Tines, 8 $\frac{1}{2}$  in. Spread at Points, 6 ft. Handle, for Unloading and Raking Manure or Pulling Straw from the Stack..... \$0.75

Weight 4 $\frac{1}{2}$  Lbs. Each

## GRASS SCYTHES

Made from the very best Material possible to obtain; Three Qualities of Steel are used in their construction combined in such a way as to make them Tough, Strong and Durable; the Back is re-inforced and the finest grade Crucible Steel is inserted for the Cutting Edge; Double Ribbed, which adds strength, without increasing the Weight; Hand Hammered and Charcoal Tempered; Half Set (Blade is set in center of the Back) and Sharpened.

Face, Web and Cutting Edge Polished; Natural Finished Back



ZENITH, CLIPPER PATTERN

Each

No. Z90—2½ in. at Heel, a General Favorite  
for Straight Mowing; assorted 28 to 32, 32  
to 34, 34 to 36 in. .... \$1.25  
Average Weight 2½ Lbs. Each



ZENITH, DUTCHMAN PATTERN

Each

No. Z90—2½ in. at Heel; for General Cleaning  
up and Heavy Mowing; assorted 28  
to 32, 32 to 34, 34 to 36 or 36 to 40 in. .... \$1.25  
Average Weight 2½ Lbs. Each



IMPORTED SWEDISH SCYTHES; FULLY WARRANTED



The Cutting Edge is Highest Grade Steel and lies protected between two layers of softer Steel, it is therefore necessary to grind both sides, not more than  $\frac{3}{16}$  of an inch from the edge, broader grinding makes the edges too pointed and it is liable to crumble. These Scythes are light, bend without breaking and will fit any American Snath.

## DUTCHMAN STYLE

Each

No. 11—Heavy, 1 in. Heel, Black Finish; For  
Heaviest Work ..... \$1.25  
Assorted ..... 28 to 32 in. 32 to 34 in. 34 to 36 in.  
Wt. Each, Lbs. 2½ 2¾ 3

## REINFORCED HEEL

Each

No. 5—1 in. Reinforced Heel, Black Finish;  
For General Purposes ..... \$1.00  
Assorted ..... 28 to 32 in. 32 to 34 in. 34 to 36 in.  
Wt. Each, Lbs. 2½ 2¾ 3

## BUSH, WEED AND GRAIN SCYTHES



Heavier and stronger than a Grass Scythe; will answer all ordinary cleaning up, as well as cutting Weeds and Brush; Stiffened with an Extra Heavy Tool Steel Back, Laid with a Soft Steel Web, into which the Crucible Steel Cutting Edge is inserted; this method makes the strongest, most serviceable Scythe possible; Especially adapted for Railroad, Roadside and Hill-side Cleaning up; Hand Hammered and Charcoal Tempered.

## ZENITH, HEAVY BUSH

Each

No. ZB1—3½ in. Wide at Heel; Ribbed; Face,  
Web and Cutting Edge Polished; Natural  
Finish Back; Assorted, 20 to 24 in.;  
Weight 3 Lbs. Each. .... \$1.25

## ZENITH, WEED OR RAILROAD

Each

No. ZW1—2½ in. Wide at Heel; Ribbed; Face,  
Web and Cutting Edge Polished; Natural  
Finish Back; Assorted, 26 to 28 in.;  
Weight 2½ Lbs. Each. .... \$1.25



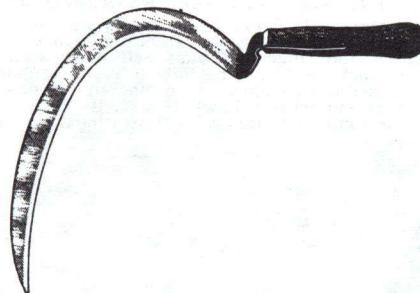
ZENITH, GRAIN SCYTHES

Especially designed for cutting Wheat, Rye, Barley, Oats and Small Grain; Fitted for use with  
Four Finger Cradle

Each

No. ZG3—3 in. Wide at Heel; Face, Web and Cutting Edge Polished; Natural Finished Back;  
Assorted, 46 to 48 in.; Weight 4½ Lbs. Each. .... \$1.75

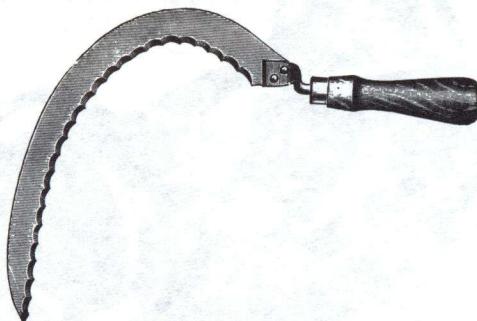
## GRASS OR REAPING HOOKS



HARTFORD

A Light, Serviceable Tool; Polished Crucible Steel Blade, Ground Sharp and Whetted; The Offset Handle enables the user to have a clear swing with Blade close to ground; Plain Handle.

Hartford—One Piece Blade and Shank; 12 in. Blade; Length Over-all 19 in..... Each \$0.50  
Weight 9 Oz. Each

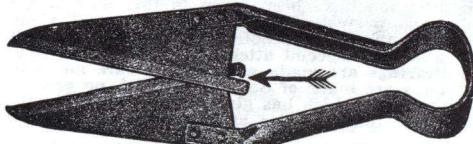


NORTHERN KING

Open Hearth Steel, Hand Hammered Blade, of proper shape, strength and lightness, tempered in oil; with Ferrule.

Northern King—12x1½ in. Serrated Edge Blade..... Each \$0.25  
Weight 13 Oz. Each

## GRASS OR LAWN SHEARS



These Shears have a projecting Lug on each Blade, at the point where they overlay, which locks the Blades together so cutting Edges are always in position; These Shears with the "Sure Klip Lock" Blades are a great improvement over the Old Grass Shears.

**HARTFORD** Each  
Hartford—5½ in. High Grade, Polished Steel  
Blades; Tempered Spring Steel Bow  
Handle; Polished Blades and Grips;  
Length Over-all 12 in..... \$0.50  
Weight 1 Lb. Each

**SUPERIOR** Each  
Superior—5½ in. Straight Steel Blades;  
Length Over-all 12 in.; Single Spring..... \$0.25  
Weight ½ Lb. Each

## LAWN MOWERS

### MARSWELLS PROFESSIONAL, BALL BEARING ADJUSTABLE

We have brought out the Marswells Professional to supply the demand for a Mower that will give Better and Longer Service, that is Easier Running, that can be perfectly adjusted by any one, (using only the thumb and finger); that is Self Sharpening in ordinary use, that is Extra Strong in every part; in fact we do not hesitate to claim that this Mower contains every desirable feature which it is possible to embody in a Machine of this kind. It will do perfect work in any grass which can be cut with a Lawn Mower, it makes no difference whether the grass is long or short, heavy or light, the Marswells Professional will cut it with the minimum of effort on the part of the operator.



MARSWELLS PROFESSIONAL

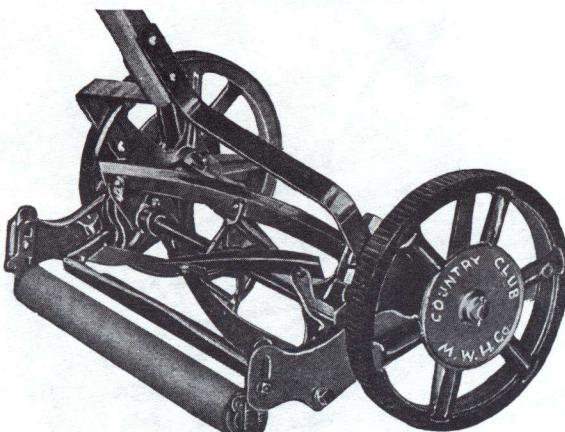
The Construction of the Marswells Professional is extremely Simple and Durable; An Important Feature is the Blade Adjustment, which is made with the Thumb and Finger without the use of any tools; this Adjustment is so simple and so nicely arranged that it can be regulated by anybody, regardless of whether they have any mechanical knowledge or not; this makes it especially desirable, as the ordinary Mower usually requires the attention of an expert for this purpose. The Cutting Blades are Extra Heavy; the Revolving Blades are made of Tough, Crucible Steel; the Bottom Cutting Blade is made of Spring Saw Steel; the Blades are the vital part of any mower and especial care and attention have been given to this part of the Marswells; they have the necessary Strength and are so perfectly Tempered that they will stand the roughest usage and give almost unlimited Service; the Shaft is Solid Steel, which also adds to the durability of this part of the Mower; We also call especial attention to the Large, Substantial Wheels, 10 inches in Diameter; the Ball Bearings are made with special care and will never wear nor require adjusting; the Cones and Cups are made of Solid Cone Steel, no pressed Cups are used in its construction; another Important Part, which has given more or less trouble in ordinary Mowers, is the Handle; we use a Handle that is twice as Strong and six inches longer than the regular kind.

Solid Drive Wheels, 10 in. Diameter; Revolving Cutter, 6 in. Diameter; Width of Blades 1½ in.; Stationary Knife Bar, pivoted on Steel Cones; Beautifully Finished in Gold and Red.

Four Blade Revolving Cutter; Silent in Operation; Adjustable Throughout; Handsomely Finished; Extra Long and Strong Handle; Especially Adapted for Terrace Work; Easy to Operate; Easy to Adjust; Easy to Keep in Order; Requires Very Little Attention; Simply Use Good Oil; It Is Self Sharpening; No Tools Required to Adjust the Blades.

Width of Cut, In.....	14	16	18	20
Weight Each, Lbs.....	60	64	67	70
Each .....	\$10.00	11.00	12.00	13.00

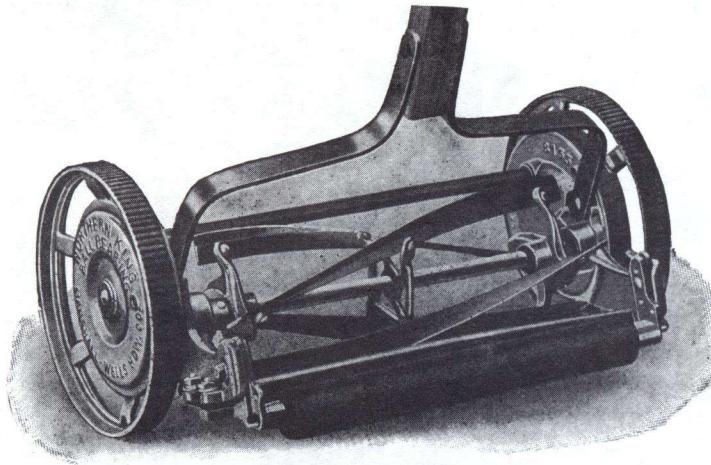
## LAWN MOWERS



COUNTRY CLUB

Ten Inch Open Drive Wheels; Four Crucible Steel Blades on Six Inch Reel; Guaranteed Ball Bearings; Set Screw Adjustments; Knife Bed Pivoted on Steel Cones; Frame Held by  $\frac{5}{8}$  in. Solid Steel Shaft; Cone Steel Cones and Cups; Saw Steel Bottom Cutting Blade; Silent in Operation; Attractively Finished in Green and Gold.

Width of Cut, In.	14	16	18	20
Weight Each, Lbs.	50	52	55	58
Each	\$7.50	8.00	8.50	9.00



NORTHERN KING

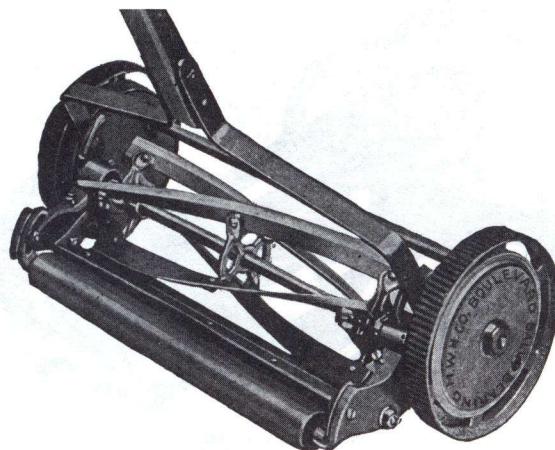
Nine and One-Half Inch Drive Wheels; Four Crucible Steel Cutter Blades; Guaranteed Ball Bearings; Set Screw Adjustments; Knife Bed Pivoted on Steel Cones; Frame Shaft  $\frac{5}{8}$  in. Solid Steel; Saw Steel Bottom Blade; Gold and Red Finish.

The extra long Wheel Base on this Mower prevents both the driving wheel and the roller from getting into small bottoms or ruts and at the same time therefore will cut much smoother than a short base machine.

The Bearings are very fine; the Ball Bearings in the cutting blades will never wear out or need adjustment under ordinary use. Cutting Blades are all of fine Crucible Steel. Stationary Blade is made of High Carbon Saw Steel and has the easy screw adjustment. This Mower is exceedingly well balanced and we will guarantee that no other Mower of similar model will cut easier than the Northern King.

Width of Cut, In.	14	16	18	20
Weight Each, Lbs.	47	49	51	53
Each	\$6.50	7.00	7.50	8.00

## LAWN MOWERS

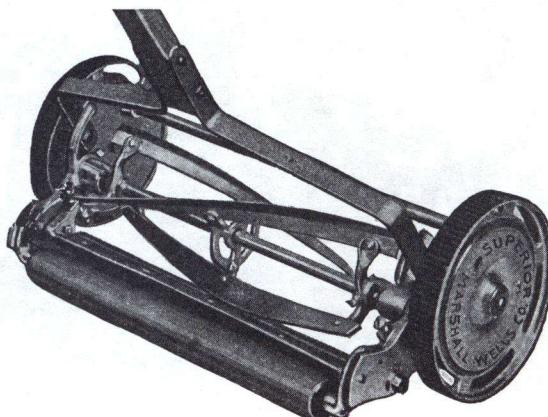


## BOULEVARD

A Good Low Priced Ball Bearing Mower; Four Crucible Steel Cutting Blades; Bottom Cutting Blade made of Highly Tempered Saw Steel; Heavy  $\frac{3}{8}$  in. Cutter Shaft.

Width of Cut, In.	14	16	18
Weight Each, Lbs.	60	64	67
Each	\$5.25	5.50	5.75

One in a Box



## SUPERIOR

Will run Lighter and Cut Higher Grass than the Ordinary Low Priced Mower. The Revolving Cutter is very stiff and will not spring out of shape and leave the Grass Ragged.

Equipped with Large Phospher Bronze Bearings; Heavy  $\frac{3}{8}$  in. Diam. Revolving Cutter Shaft; Special Guards at each end of Cutter Shaft keep the Bearings from Clogging with Horse Hair, Strings, Dirt, etc.

The Bottom Cutting Blade is highly Tempered Saw Steel and is easily adjusted by Side Screws.

Width of Cut, In.	14	16	18
Weight Each, Lbs.	60	64	67
Each	\$3.50	3.75	4.00

One in a Box

This c. 1910 Marshall-Wells Hardware Company Catalogue is reprinted from an original in the collection of Mr. Robert Nugent, a Mid-West Tool Collectors Association member of Hillsboro, New Hampshire.

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The Marshall-Wells Hardware Company was headquartered in Duluth, Minnesota with branches in Billings, Montana, Portland, Oregon, and Seattle and Spokane, Washington, also other Mid-West and Western cities in the United States and Canada.

Their major brand name was ZENITH. Second quality tools were branded MARSWELLS, HARTFORD, SUPERIOR or NORTHERN KING. Most of the planes they offered were manufactured by Sargent.

They ceased operations in the United States c. 1960.

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